As the population clock winds down: indicative effects of population ageing in Australia's States and Territories

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ABSTRACT

Among the more profound features of population ageing is its regionality. This regionality is particularly marked in Australia, where the timing and speed of the phenomenon are occurring at substantially different rates in each State and Territory. A related shift to natural decline is expected to create many social, economic, and political predicaments in those countries and regions where it is first experienced. In Australia, the distinction of being first to enter natural decline will fall to Tasmania, followed soon thereafter by South Australia, but not for several years by the youngest States and Territories. These diverging demographic forces will have many implications, among them, the complex mix of Federal, State and Local Government that currently adjudicates over policy making and implementation, especially that which concerns the collection of taxes, the distribution of the goods and services of the Welfare State, and a large element of fiscal redistribution.

This paper provides an overview of demographic characteristics and dynamics by region, and examines their projected effects on three key socio-economic indicators: educational demand, the labour market, and demand for Age Pension. It finds that the changing demography – which might be thought of as the slowing and eventual stopping, even reversing, of the population clock - will deliver both positive and negative outcomes, but argues that unless the profound regionality is soon understood and engaged with, currently-older and –younger States are likely to encounter not only diverging demographic forces, but also fortunes.

Population ageing is occurring unevenly across and within the various countries and regions of the world. A related transition to low or zero natural growth and/or natural decline, projected to occur all developed countries by mid-century, is expected to create many unprecedented social, economic, and political predicaments in those countries and regions where it is first experienced. According to the United Nations Population Division (2000:4), the emerging situation requires objective and comprehensive reassessments of many long established economic, social and political policies and programs. This will certainly be the case in Australia, where a complex mix of Federal, State, and Local Governments and Non-Governmental agencies have responsibility for the collection of taxes, the funding and redistribution of the goods and services of the Welfare State—and of the State in general, and where the impact of ageing and the onset of natural decline in each State and Territory will differ across a substantial time span.

Although many excellent studies of Australia's regional demography exist, by and large these focus on individual States and Territories, and concern sub-regional distribution and migration. Few have examined, in comparative terms, what the combined effects of births, deaths, and migration mean for regional differences in the speed of ageing and onset of natural decline, and/or the associated social, economic, and political implications (cf. Hugo 1999; Felmingham, Jackson and Zhang 2002). Reflecting this deficit, most considerations of population ageing in Australia have a strong national level focus, with the media regularly reporting that—for example— 'Australia's population of workforce age will rise until 2015 and stay constant after that' (e.g., *The Australian* 2001:11). Such pronouncements ignore the implications of the marked differences in this indicator projected by the Australian Bureau of Statistics (ABS 2000) for each State and Territory.

The regional differences will occur across the entire socio-demographic spectrum, and each will have implications for a number of related social, economic and political institutions. As this paper will illustrate, school and tertiary-education age populations in the older States will decline, in some cases plummet, while in the younger States and Territories they will continue to grow, even soar in size for several decades yet. Similarly, the ratio of those seeking to enter the labour force at younger ages to those approaching retirement age and leaving will quickly fall below 0.7 in the older States, potentially increasing the demand for younger and older workers alike—indeed most likely creating serious competition between the labour market and educational institutions for the participation of the young—while remaining well above 1.0 in the two youngest regions, across the next five decades. At the older ages, where the main

preoccupation with population ageing is vested, percentages over the age of 65 in the youngest and oldest regions will open up from their current 11.0 percentage point difference, to around 24.0 percentage points as the mid-century approaches (ABS 2000, Series II). At the same time, numbers in the oldest regions will peak and begin to decline within three to four decades, while those in the youngest regions will grow well into the second half of the century.

As implied, such regional or temporal disparities in the 'stopping' of Australia's population clock can be expected to have many implications, but at this point, even the disparities themselves have seen little explication. Accordingly, this paper offers an indicative overview—some of which is necessarily speculative. Following the example of McDonald and Kippen (2001), it takes a whole-of-population approach—that is, one in which the effects of population ageing on the younger and middle age populations are given as much attention as those on the older age groups. A brief outline of the political complexity in Australia within which regional responses to population change must be made is given first, followed by a comparison of regional differences in the extent, speed, and dynamics of population ageing. An analysis of the impact of population ageing on the three factors noted above, namely, educational demand, the labour market, and demand for Age Pension, is then presented. Obviously, these are only three of the many factors that population ageing will have an impact upon, but they serve to illustrate a central theme of this paper: that population ageing will bring with it both positives and negatives, that these outcomes will be experienced by different institutions, and that their overall effect can only be assessed through a whole-of-population (and ultimately, whole-of-government) approach. By contrast, if examined as discrete entities, many all-important interactions between these demographic and institutional sectors may be overlooked.

Australia's system of government

Australia's Commonwealth Constitution is in essence an American model distributing legislative powers between three tiers of government: the central Commonwealth (Federal) Government; eight 'State' Governments (New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, the Northern Territory, and the Australian Capital Territory) [1]; and lastly, 727 Local Government bodies created by legislation at State and Territory level. However this constitutional framework differs from the American Federal system by retaining a British system of cabinet government, an executive form of governance chosen from and responsible to Parliament, and not to a President as is the case in the United States.

The distribution of powers in the Australian Constitution include certain exclusive Commonwealth powers, in particular, customs, excise, defense, control over international immigration, the levying of income tax, and the provision of income support. However, most powers of the Commonwealth are shared with the States and Territories, for example, the right to levy certain taxes, legislate about banking, provide educational services, and activate special opportunities created within Federal immigration policy, such as State-sponsorship of certain skilled immigrants. Certain residual powers remain with the States, namely, control over agriculture, industry and several social services—such as the delivery of key aspects of health and aged care and housing, while a relatively wide range of powers (for example, to determine and levy rates) and services are held and delivered by Local Government.

Contributing to the coordination of the whole are two key—but quite distinct and differently constituted—bodies: the Council of Australian Governments (COAG), and the Commonwealth Grants Commission (CGC). The former is a forum that 'initiates, develops and implements national policy reforms requiring cooperative action between the three levels of National, State/Territory and Local Government' (Commonwealth of Australia 2000), while the latter is an advisory body concerned with recommending the appropriate distribution of a pool of revenue made available by the Commonwealth for the equalisation of State, Territory and Local Government capacities in each State and Territory to provide services. Explicit within the latter exercise is the principle of fiscal equalisation, via which the smaller States and Territories (such as Tasmania and the Northern Territory) and Local Governments receive disproportionately larger shares of Federal funding on account of their lack of scale economies and narrower tax bases. [2]

As implied, similar egalitarian principles apply to Federal immigration policy, where the same basic criteria apply to all States and Territories. States and Territories may seek out and recruit specific international immigrants, but only within Federal criteria. As illustrated below, such arrangements have historically caused the States and Territories to receive disproportionate shares of immigrants. Yet, equally importantly, all tiers of Government in Australia are capable of conducting population strategies under their Constitution. There is, in consequence, an issue to be resolved about the coordination and control of essentially egalitarian policy that responds to population change in and across Australia. Indeed, although the COAG's objectives include 'cooperating … on reforms to achieve an integrated, efficient national economy and a single national market' (Commonwealth of Australia 2000), these objectives do not include a population policy—an innovation long eschewed by Australian governments.

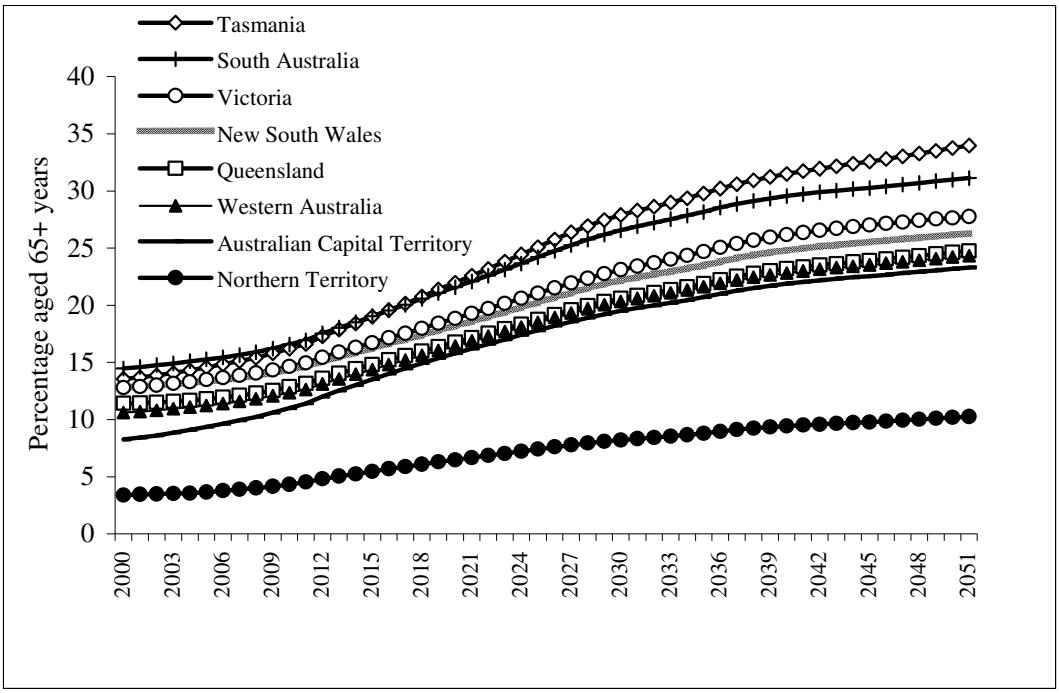
The ageing stakes: regionality and temporality

Australia's States and Territories have always experienced differences in population size and composition, due primarily to differing experiences of interstate and international migration, and the fact that international immigrants have generally been free to settle and relocate at will. One result is that international immigrants, who account for 22 per cent of Australia's population, are disproportionately represented in Western Australia, New South Wales, and Victoria, and are under-represented elsewhere—although it should be noted that for much of the post war period, South Australia also received a disproportionate share (Hugo 1999). Regional differences in fertility and mortality have also long been recorded, with the result that the contribution made by natural increase (births minus deaths) to the size and composition of each region has also differed (ABS 1997). These points are returned to below.

Relatedly, Australian Bureau of Statistics (ABS) data indicate that Australia's States and Territories are experiencing—and will continue to experience—substantial temporal differences in the speed of ageing and the onset of natural decline. Using the proportion of the population aged 65 years and over as a key indicator of *structural* ageing,[3] South Australia, at 14.6 per cent in 2001, is currently Australia's oldest State (Figure 1).[4] At 13.7 per cent and second oldest, Tasmania seems a reasonable way behind, but, because it is ageing more rapidly, it is expected to take the lead in a little over a decade. By contrast, with a mere 3.4 per cent over the age of 65, the Northern Territory is currently Australia's youngest State, and will remain so across the projection period, not reaching the official 'old population' indicator of 10 per cent aged 65+ (Weeks 1999:278-9) until around 2048. Similarly, the Australian Capital Territory (ACT) will not be officially 'old' until 2007. In between these extremes, New South Wales approximates the situation for the total population—currently around 12.4 per cent aged 65+, and projected to reach 26 per cent in 2051.

The projected trends are significant in a number of ways, but perhaps most so in terms of the percentage point gap between the youngest and oldest regions at the beginning and end of the projection period. Between 2000 and 2051, the gap between youngest and oldest regions will open from its current 11.0 percentage points, to around 24.0. Although at first glance the trends appear similar, by 2051, the Northern Territory will be scarcely as 'old' as the second youngest State (ACT) is at the present time, whereas Tasmania will have aged considerably, to 34 per cent aged 65+. The ACT, Western Australia and Queensland, will, on the other hand, be only as old in 2051 as Tasmania and South Australia will have been in the early 2020s.

Figure 1: Projected Percentage Aged 65+ Years, Australia's States and Territories, 2000-2051



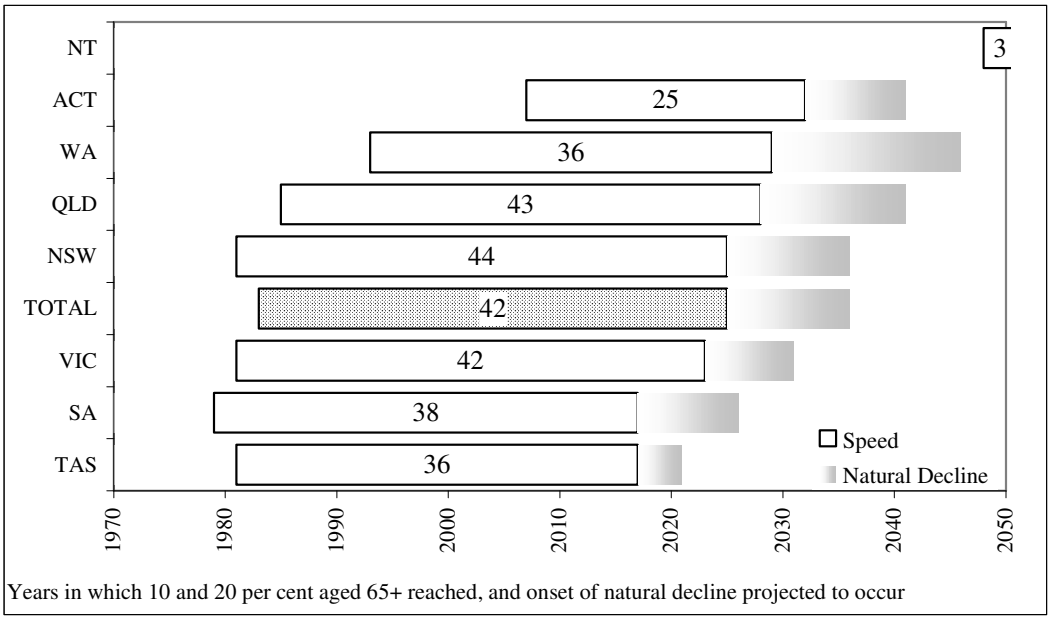
Source: Constructed from ABS (2000) Population Projections 1999-2100, Catalogue 3222.0, Series II

Temporal disparities of this magnitude have a number of implications, among them, the indication that Federal-level, one-size-fits-all policies will become increasingly anachronistic. Tasmania and South Australia are already needing additional resources directed at the older end of the age spectrum, while the Northern Territory and the ACT will, for some time to come, need them primarily directed at youth.[5] Profound ageing-related issues that Tasmania and South Australia will have to deal with in the 2020s will not have to be dealt with by the ACT, Western Australia, or Queensland until the 2040s, or by the Northern Territory until substantially later.

However, Figure 2 illustrates another perspective on this argument: the *speed* with which each region is ageing, as measured by the number of years taken to shift from 10 to 20 per cent over the age of 65. The importance of this indicator lies in its demonstration of the *force* or intensity of the change—i.e., the number of years within which the main impact of ageing will be compressed (Ogawa 2000). Whereas Tasmania and South Australia will be the first to contend with the major implications of population ageing, and the force of the impact in terms of the speed of the ageing of these States (36-38 years) will be greater than that for Victoria, New South Wales, and Queensland (42-44 years), that which will ultimately be experienced by the ACT—25 years—will be the most acute.[6] No research has yet been done into the implications of

this aspect of the disparity.[7] However, the institutional lag that tends to accompany social change is one factor that will certainly need to be addressed. For example, the partial underwriting of Local Government funding by the Commonwealth Grants Commission alluded to above is typically reviewed (5-yearly) and committed to up to 9 years in advance of perceived needs. Although 'age profile' is one of the 'disability factors' upon which such funding is determined, the future dynamics of population ageing are not adequately addressed by this criterion.

Figure 2: Speed of Structural Ageing (Number of Years to Shift from 10 to 20 Per Cent Aged 65+), and Projected Onset of Natural Decline, By State/Territory



Source: Constructed from ABS Population Estimates, Catalogue 3235.0, various years; and ABS (2000) Population Projections, Catalogue 3222.0, Series II

To draw on some global comparisons, Japan—one of the world's fastest ageing populations—will reach the 20 per cent mark around 2007 and will have taken approximately 22 years to transit there from 10 per cent (Ogawa 2000:82). Most other East Asian countries have not yet reached the 10 per cent mark. However, once they do, they will transit between 10 and 20 per cent in even shorter periods. Singapore, for example, will take only 12 years (2012-2024); China, around 15 (2017-2032)—both 'beating' Total Australia into natural decline (see below). There is concern about the ability of these countries to respond to the social and economic changes that these demographic changes will generate, but, as Ogawa (2000:101) points out, Japan's vanguard experience may serve them as a useful basis for appropriate policy formulation.

So it is likely to be with the experience of Tasmania and South Australia. The ACT will indeed age faster than any other Australian State or Territory, but to some extent it will have the benefit of the formers' experience; by the 2020s, hyper-ageing (Rowland 1996:56) will already have been experienced in an Australian context, and presumably it will also have been accompanied by appropriate policy development.[8]

Figure 2 also illustrates a key outcome of these trends: the approximate year of onset of natural decline (the year in which deaths are projected to exceed births—inclusive of an annual net international migration gain of 90,000), in each region. As would be expected, the onset of natural decline in each State and Territory approximates the previous indices of structural ageing (although it is important to note that both the force of ageing and the shift to natural decline are in all cases affected by the region's particular experience of migration—discussed below).[9] Tasmania is projected to be Australia's first State or Territory to go into natural decline, followed shortly thereafter by South Australia, and around a decade later by Victoria—we might think of these regions as Australia's first 'cabs off the rank'. By contrast, the Northern Territory is not projected to go into natural decline until at least the sixth decade, with the remaining States and Territories falling in between these extremes. Note that no specific importance is attached to the particular date of onset of natural decline; as previously, what is of import is that the onset of this unprecedented event will be separated in the oldest and youngest regions by a period of at least four decades (two if the Northern Territory is excluded).

Although natural decline is an outcome of hyper-ageing, its implications differ quite substantially. With hyper-ageing, the numbers and proportions of the population aged 65 years and over undergo a significant increase; with natural decline, the population stops growing from natural causes, and, in the absence of significant *replacement migration*,[10] declines in size. What is singularly important to appreciate is that in most developed countries, both are expected to occur more or less simultaneously (see Ogawa 2000:83 on Japan). As the proportions over the age of 65 years begin reaching their maximum levels, total numbers will begin to decline—unless shored by substantial net migration gains—typically, numbers of migrants well above the historical experience of most affected countries (United Nations 2000). Clearly this simultaneity, yet vastly different *temporality by region*, has significant implications for the egalitarianism implicit within much of Australia's Federal-level policy. At minimum it will require a revision of many per capita-based regional funding principles and policies (under which population growth means additional funding, and population decline, less, at the very

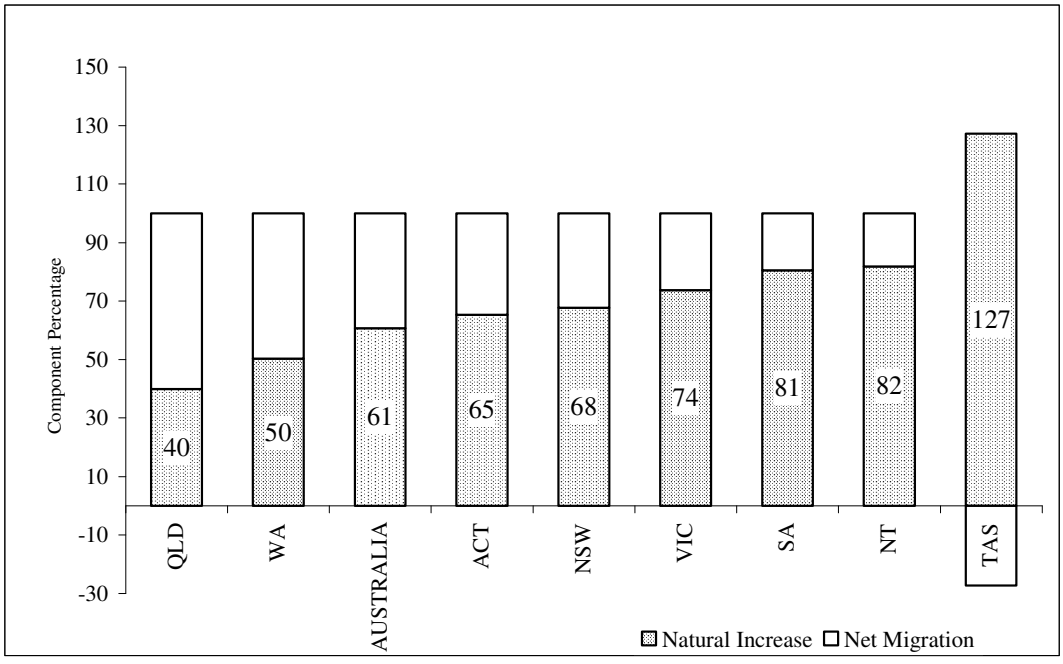
moment when more may well be needed), and differential treatment by region as regards migration criteria.

Regionality in the components of population change

According to Hugo (2000:175-6), debates about Australia's population size and growth have focused almost entirely on the role that overseas immigration has played, and can play in the future. By contrast, the role and indeed fact of natural increase has been very much taken for granted. These perceptions—or misperceptions—are strongly evidenced in debates at regional level, despite the fact that in some regions, natural increase has accounted for almost all—and in the case of Tasmania, *all*—aggregate net growth over the post war (WW2) period.[11]

Figure 3 illustrates this argument for the period 1971-2000. While natural increase has accounted for 61 per cent of Australia's total growth since 1971, it has accounted for 74 per cent of that in Victoria, 81-82 per cent of that in South Australia and Northern Territory, and all of that in Tasmania. Indeed, in Tasmania, natural increase has additionally offset an aggregate net migration loss of more than 20,000 over the period. By contrast, Queensland and Western Australia have been the major beneficiaries of migration, with this factor accounting for 60 and 50 per cent respectively of their population growth since 1971.

Figure 3: Aggregate Contribution (%) of Natural Increase and Net Migration Components to Population Change, By State/Territory (1971-2000)



Source: Constructed from ABS Demographic Trends, Catalogues 3102.0 and 3101.0, various years

Two important points of qualification are needed here. First, as indicated earlier, Queensland has primarily made these gains from interstate migration, and Western Australia, from international migration, although both have typically also experienced gains in each of these categories (Hugo 1999). New South Wales, Victoria, and South Australia (the latter more so in the past) have also disproportionately gained from international migration, but this has typically been partially offset by interstate migration loss. Most of the ACT's gains have been from interstate migration, as have Tasmania's losses, while the Northern Territory's gains—and indeed those of Tasmania—have been primarily international. These historical 'mixes' can be expected to have a bearing on future patterns of growth and decline, at least in part through their contribution—or lack thereof—to natural increase. Second, the relatively high levels of natural increase that have accounted for past growth in Tasmania and the Northern Territory are now diverging quite dramatically. While these two regions typically account for the two highest fertility rates in the nation, TFRs currently around 1.8 and 2.1 respectively, that for the former is applied to the second-oldest population, and that for the latter, to the most youthful. These age compositional differences, which by and large reflect Tasmania's more sustained experience of net interstate migration loss (Jackson and Kippen 2001), are the primary reason that the Northern Territory will continue to grow from natural increase until at least 2051, while Tasmania will enter natural decline within two decades.

By implication, these data provide an indication of the forthcoming impact of the loss of natural increase. Since natural increase has accounted for such substantial proportions of growth in some regions, its loss foreshadows not only natural decline, but also absolute decline. As implied above, the replacement migration that will be required to offset natural decline in some States is considerably greater than that hitherto experienced—for example, Tasmania will need to shift from a general situation of net loss, to a long term annual net gain of around 1,400 (Jackson and Kippen 2001). Despite popular perceptions that there is an endless supply of migrants waiting to migrate to Australia, increasing global competition for ‘suitable’ (i.e., skilled) migrants means that in the medium to longer term it is unlikely that supply will meet demand.[12]

How might we interpret this situation as regards Australia's demographic regionality? On the one hand, those Australian regions that have historically had relatively low net migration gains—Tasmania, South Australia and Victoria—are those projected to be the first to experience natural decline (an exception is Northern Territory). Unless Federal migration policy is altered to more actively encourage international migrants to those areas, or at least, to Tasmania and South

Australia, their shift to absolute decline will be assured. On the other hand, those regions that have historically had relatively high net migration gains may in the future experience even greater competition for migrants than their currently-older counterparts, as this competition will increase over time. Either way, it would seem that the current acknowledgment by the Commonwealth that Australia will need to increase its immigration intake towards the 2030s—when Australia is projected to enter natural decline (e.g. Ruddock 2000a, 2000b)—fails to take serious account of these regional discrepancies.

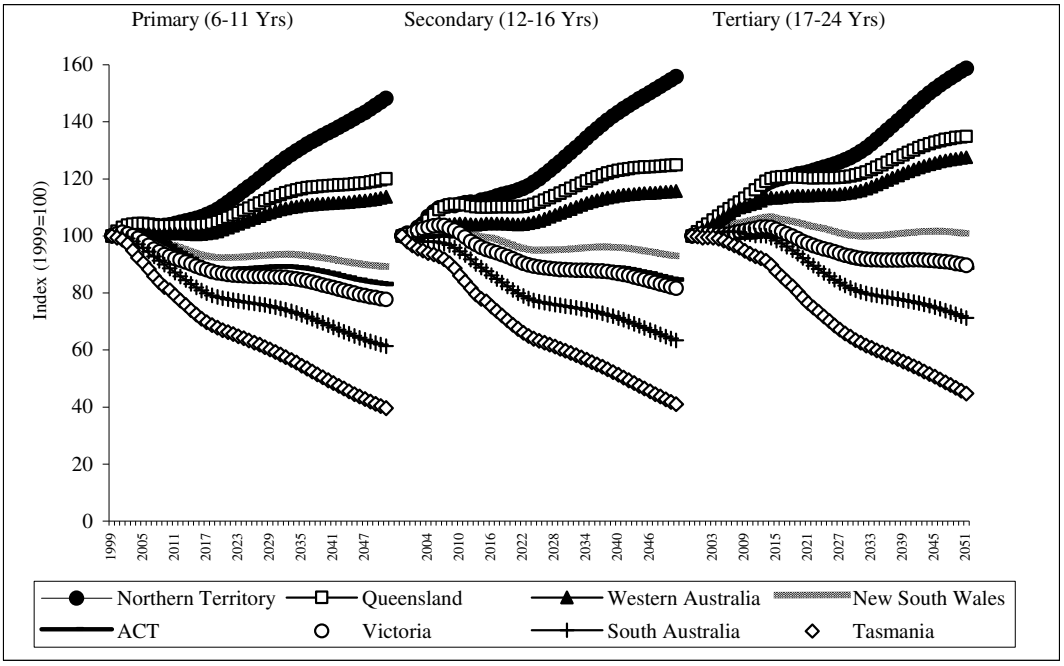
Nor is it likely that this anticipated shift to natural and/or absolute decline will be forestalled in the short term by the required increase in the birth rate (i.e., to a TFR of 2.1). Indeed, in the case of Tasmania, which typically has the second to third highest birth rate in the nation, nothing short of an immediate injection of 20,000 migrants at the key reproductive ages—18-38 years—will alter the short-term prognosis, and then only temporarily (Jackson and Kippen 2001). This is because of the age-specificity of migration, which, in Tasmania's case, has caused a hollowing out of the age structure over those years. An opposite and illustrative example is the case of the ACT, with the nation's lowest birth rate (TFR 1.6), but a bulge in the age structure at these ages. Against this disproportionate excess of people of reproductive age, even the ACT's low birth rate will ensure that natural increase continues well into the 2030s.

Regionality in the effect of population ageing on educational demand

Structural ageing affects the entire age-spectrum, and, despite widespread preoccupations with the increasing numbers and proportions of elderly, impacts from the bottom up. It will cause declines in the numbers and proportions at younger ages, including the all-important working age/primary tax base population (15-64 years). Reflecting the foregoing arguments, these changes will be profoundly different by region.

Figure 4 illustrates the situation at the younger ages in terms of educational demand—the projected numbers (indexed to 1999) of 6-11, 12-16, and 17-24 year olds, representing the main primary, secondary, and tertiary education age groups. The patterns and trends are almost identical for each age group. Across the projection period, average numbers across all three age groups plummet in Tasmania (by 58 per cent), South Australia (-35 per cent), Victoria (-17 per cent), and ACT (-14 per cent); remain relatively stable in New South Wales (-6 per cent), and increase in Western Australia (19 per cent), Queensland (27 per cent), and the Northern Territory (54 per cent) - note that these reflect the ABS' medium case (Series II) projections (see Jackson and Thompson 2002 for more detail).

Figure 4: Projected Primary, Secondary, and Key Tertiary Education Ages (Indexed to 1999), By State/Territory



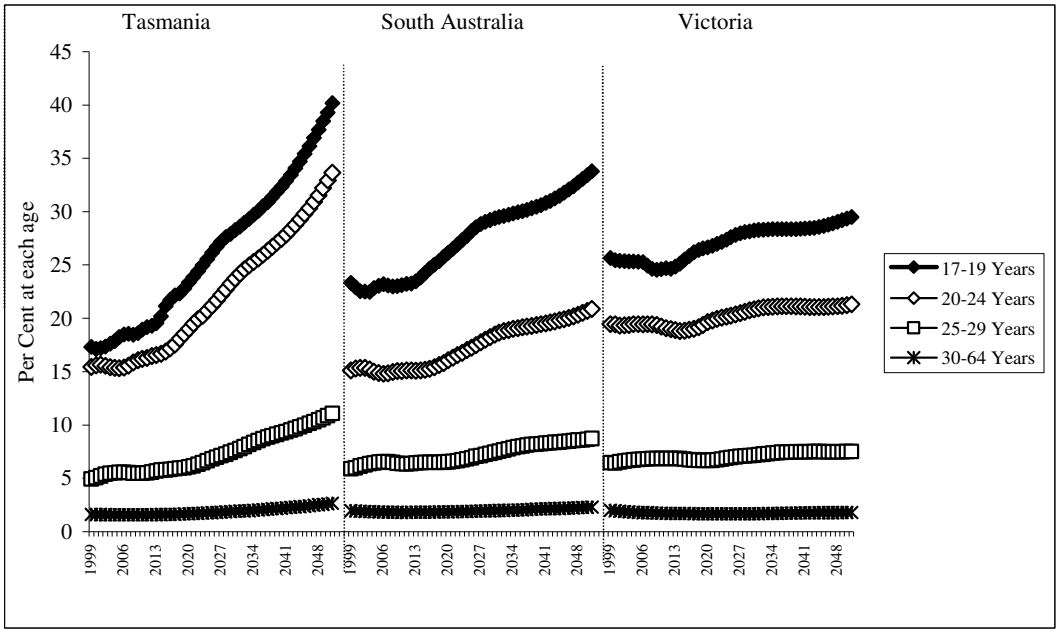
Source: Jackson and Thompson, 2002, Figure 1 (ABS Series II)

Another important point needs to be made here. As noted earlier these medium case trends assume an overall annual net migration gain of 90,000 persons. Obviously, if the fertility, mortality, and migration assumptions for each State/Territory do not eventuate, the changes for each will be greater or less than indicated. However, the relative patterns would remain similar. For example, if Tasmania were to experience the ABS 'high variant' (in Tasmania's case, the 'best' case) assumptions,[13] the average decline in Tasmanian school and tertiary age populations (-35 per cent) would be almost identical to that shown for South Australia on the medium case assumptions (Thompson 2001). Such a significant relative increase would also imply a sizeable increase in Tasmania's share of immigrants, Tasmania having historically received somewhat less than its proportionate 'share'.

Given that participation in primary and secondary education to age 15 is close to universal, the patterns and trends in Figure 4 can also be interpreted as approximations of future numbers of students; thus they have important implications for educational policy. At the older ages, it is largely participation rates that determine numbers. However, as Jackson and Thompson (2002) indicate, it will take a substantial increase in age-specific participation ratios[14] to even maintain some university populations at their current size. Figure 5 illustrates the point

for the three oldest regions: Tasmania, South Australia and Victoria. In order to maintain the university student populations of these States around their current sizes, the participation rates of 17-19 and 20-24 year olds—who account for 60-64 per cent of current students—will have to increase across the projection period by 132 and 117 per cent (Tasmania), 45 and 38 per cent (South Australia), and 15 and 10 per cent (Victoria) respectively.

Figure 5: Increase (%) in Age-Specific Participation Ratios* Required to Maintain Current University Numbers, Selected States



Source: Jackson and Thompson 2002, Figure 2 (ABS Series II)
Notes: * Includes current age specific ratios of Overseas Students

Nor can it be assumed that the required increases in tertiary participation will necessarily follow. The same structural ageing that is driving down the numbers of potential students is also bringing with it a decline in the ratio of labour market entrants to exits (that is, those aged 15-24 and entering the labour market to those aged 55-64 and approaching retirement). The extent to which this essentially unprecedented situation may result in competition between educational and labour force institutions for youthful participants has yet seen very little investigation (cf. Easterlin 1986, who raised similar issues theoretically). However, there are strong indications that at least some of the recent increase in tertiary education has reflected hidden unemployment, rather than a true upsurge in tertiary participation (e.g., Deardon and Heath 1995; Lewis and Koshy 1999)[15]. The above trends could thus well foreshadow a decline in university and other

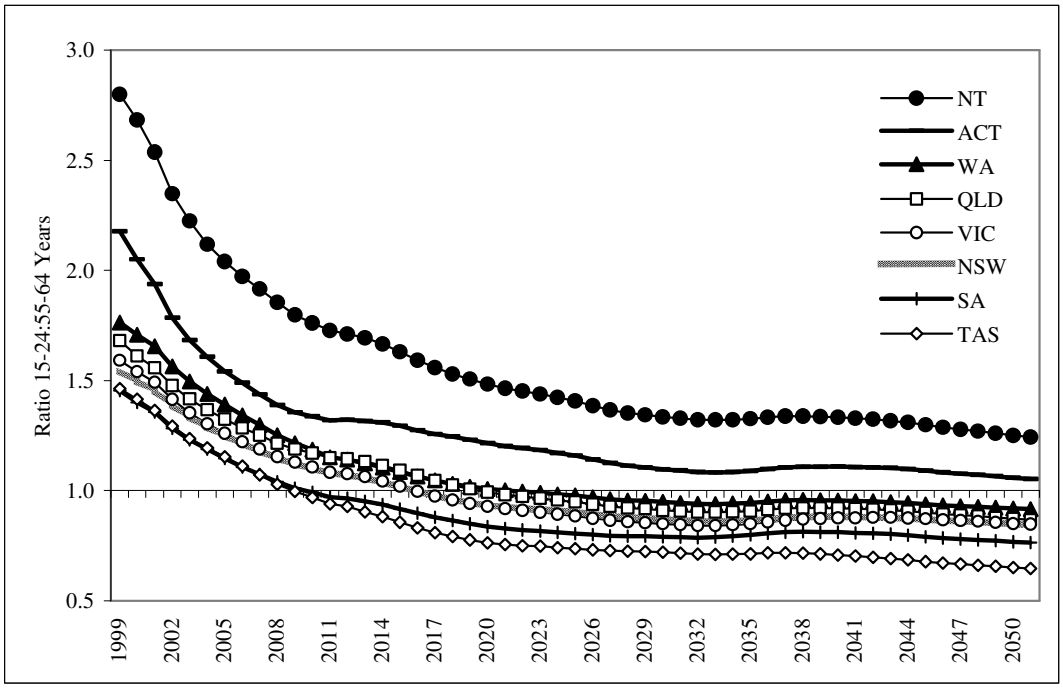
tertiary numbers, emerging first in the oldest regions; while in the youngest regions numbers will still be increasing. How will the current Federal/State (and Local Government) division of responsibilities for education, which are already extremely complex, and the labour market/industrial relations, respond to this additional complexity?

Regionality in the effect of population ageing on the labour market

As implied, the foregoing trends will have their sequel in relatively depleted younger cohorts reaching labour force entry age, taken here as those aged 15-24 years. But it is not just the reduced numbers at these ages that will generate the impact, but their number *vis-a-vis* those reaching retirement age, currently 55-64 years. The clearest illustration of this changing circumstance can be seen in labour market entry:exit ratios, given in Figure 6. These data indicate that, while the ratio for Australia will fall from its present 1.6 to around 0.9, this is certainly in the middle of the distribution. For Tasmania and South Australia, the ratios will fall from their present 1.5, to around 0.6 and 0.8 respectively. That is, in these regions there are currently around 1.5 people of labour market entry age (15-24 years) for every person approaching retirement age and/or leaving the labour force—or 15 for every 10. By 2051, this will have shifted to 6 young people reaching labour force entry age for every 10 approaching retirement age in Tasmania, and to 8 for every 10 in South Australia. Moreover, these ratios will approach these levels within 20 years—sooner if the 'entry' group is defined as 18-24 years, which more adequately reflects the situation today. By contrast, the ratios for Northern Territory and the ACT are unlikely fall below 1.0 (or 10 entrants for every 10 exits) before 2051.

A significant caveat must be entered here about the analysis of projected entry:exit ratios, and indeed of any labour force component. Labour force participation and retirement rates, which help determine this key ratio, will be influenced by many economic factors, such as the state of the business cycle, the relative price of labour, and its productivity. Here, attention is focused exclusively on demographic influences on the ratio; consideration of the economic consequences requires a separate analysis.

Figure 6: Projected Labour Market Entry:Exit Ratios (15-24:55-64 Years), By State/Territory



Source: Jackson and Thompson, 2002, Figure 5 (ABS Series II)

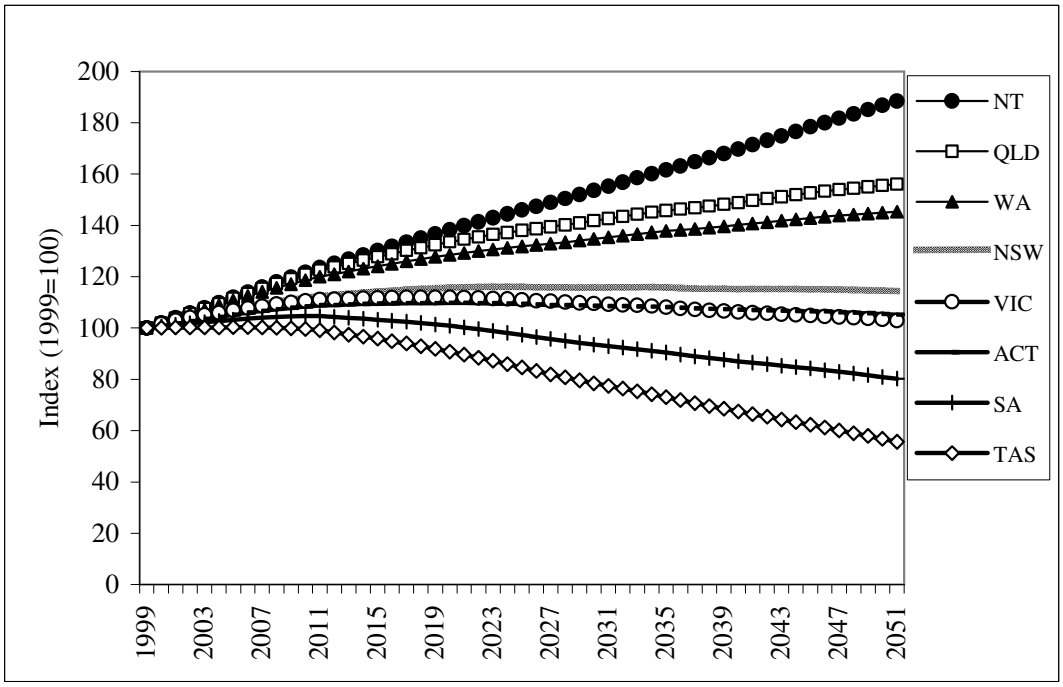
In and of themselves then, falling entry:exit ratios do not promise lower unemployment or better employment conditions. Indeed, in Tasmania, this ratio is already the lowest in the country, yet Tasmania's labour force unemployment rate is the highest. However, since falling entry:exit ratios are also being repeated in most developed countries, there is certainly an indication that they will in time impact on both employment and unemployment (McDonald and Kippen 2001). For example, even if age-specific unemployment were to remain at or near its current level, standardisation of the data indicates that the total unemployment to population ratios of all States and Territories would fall across the period by between 7 and 33 per cent (representing Northern Territory and Tasmania respectively).[16] With a projected average decline of 22 per cent across the period, the experience of Total Australia would be similar to that for the remaining States and Territories. In other words, structural ageing *per se* should reduce unemployment rates by around one-fifth nationally, and one-third in the oldest regions, *ceterus paribus*. By implication, it will enhance the bargaining position of employees; it is therefore also likely to impact on labour costs.

The question now needs to be posed, how realistic are these somewhat simplistic and mechanistic projections? The answer is that they may in fact *over*-estimate unemployment across

the period, because of the proposed interactions between the two sets of circumstances indicated in Figures 5 and 6. The declining labour force entry:exit ratio (Figure 6) could well generate an increase in demand for labour—although it is acknowledged that such an increase is unlikely to occur in the absence of an increase in consumer demand.[17] McDonald and Kippen (2001) argue that such a demand could well be forthcoming. On the one hand they acknowledge that intra-regional demand for labour *could* fall to match falling or stagnating labour supplies. On the other, they argue that population ageing will also intrinsically alter the occupational structure of regional labour forces, ushering in an increasing demand for locally-delivered and in many cases labour-intensive services. Such work, inclusive of an expanded administrative sector, will not be readily exportable to the labour-abundant economies of the developing countries, as has occurred in the recent past. Possible labour shortages in older regions may thus, as indicated throughout this paper, drive a decline in unemployment in those regions. If they do, they may generate a reversal of historical interstate migration flows, as, for example, a relative excess of youth in the younger regions move to Tasmania and South Australia to take advantage of emerging opportunities.

Supporting the argument of an increase in competition between the labour market and tertiary education institutions (emerging first in the older regions) is a third issue: absolute declines in the primary working age populations (15-64 years) of these regions, vis-à-vis stagnation in others (see also Access Economics 2001:28; Ruddock 2001). As is generally well known, the total working age population is projected to begin its unprecedented decline as a *proportion* of the population across the period (from 67 to 59 per cent), early next decade, but it is not expected to begin to decline numerically until around 2046. However, as Figure 7 shows, the typical focus on trends at national level is again highly misleading. The Tasmanian working age population will slip into long-term numerical decline around 2011, if not before, and that of South Australia, around a decade later. The working age populations of Victoria, the ACT, and New South Wales will increase in the short term between 8 and 16 per cent, then also begin very slow declines around the third and fourth decades. Reflecting the earlier analysis, the working age populations of Western Australia, Queensland, and Northern Territory will continue to grow numerically across the projection period.

Figure 7: Projected Size of Working Age Population (Numbers Indexed to 1999) By State/Territory

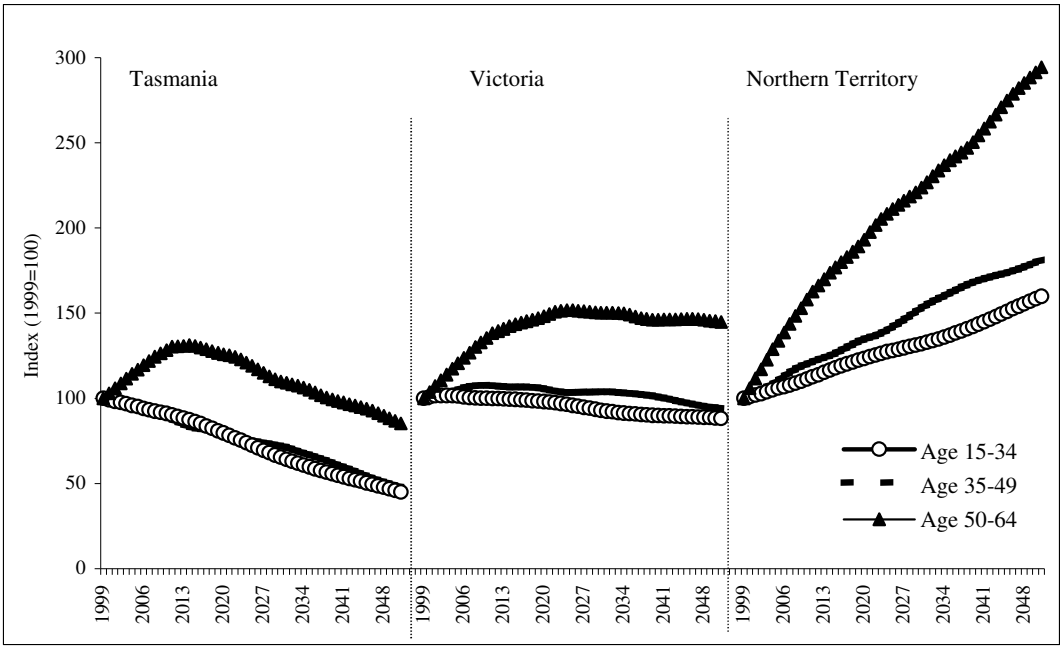


Source: Constructed from ABS (2000) Population Projections, Catalogue 3222.0 (ABS Series II)

Within these overall changes, one further point is very important. In all regions, the dominant growth (and/or what remains of growth) in the working age population comes from the 50-64 year age group. Figure 8 illustrates the situation for Tasmania, Victoria, and Northern Territory, representing the upper, middle and lower age-range of the regions. In Tasmania, the numbers of 15-34 and 35-49 year olds are already declining, while the above noted decline in the total working age population around 2011 coincides with the onset of decline in the 50-64 year population. The effects are more muted in Victoria, but again it is the growth in the 50-64 year old population that accounts for almost all remaining growth. Even in the Northern Territory, the youngest region, where growth in all age groups will continue across the projection period, it is that in the 50-64 year group which is dominant.

These trends and patterns reflect both structural ageing and projected differences in the experience of migration. Substantial changes in fertility or regional migration patterns could thus alter them. However, over and again, they illustrate the same point: that structural ageing cannot be substantially ameliorated by migration. Even where international migration gains are relatively high, as, for example, in Victoria, the same changes to age composition occur—with a slight time lag—as occur in Tasmania and South Australia in the shorter term.

Figure 8: Projected Working Age Population By Broad Age Group (Numbers Indexed to 1999), Selected States/Territories



Source: Constructed from ABS (2000) Population Projections, Catalogue 3222.0 (Series II)

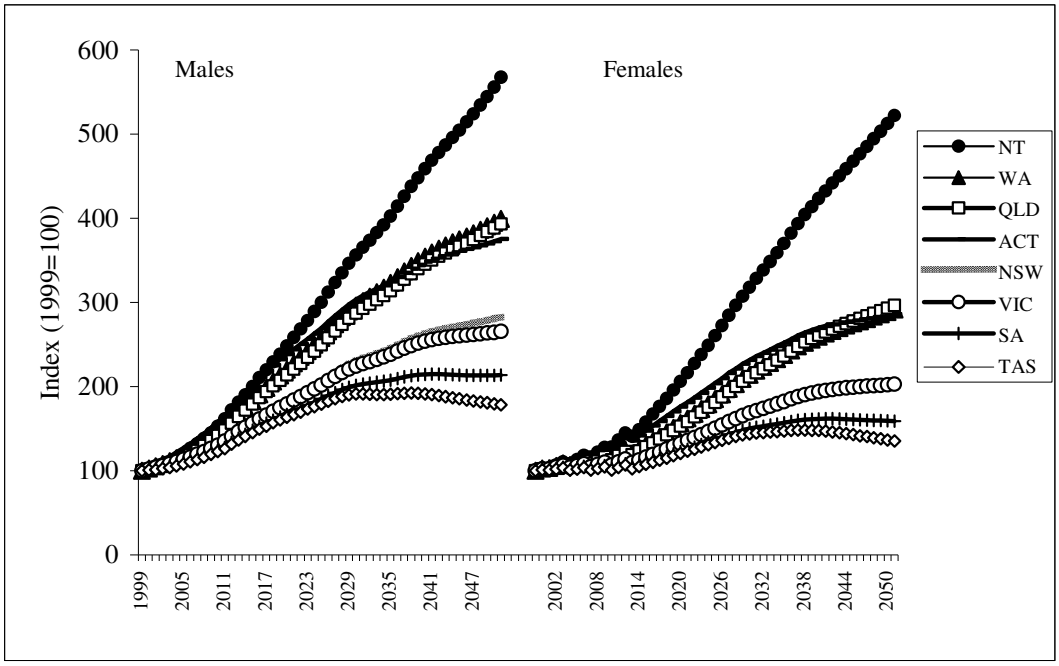
Regionality in the effect of population ageing on the Age Pension

The effect of population ageing in terms of projected increases in the proportions of elderly in each region was indicated earlier in Figure 1. This final section focuses on *numerical* ageing—that is, the absolute increase in the numbers of elderly, and their likely impact on Age Pension. Although other factors, such as the extent and adequacy of private provision for old age are involved, it is the numerical dimension of population ageing that is driving up the demand for elder-oriented goods and services, while in terms of fiscal provision it is the structural ageing outlined in the previous sections that is the constraining factor (Jackson 2001:3).

Figure 9 provides an indication of the impact of numerical ageing on the numbers (indexed to 1999) receiving Age Pension for each region, assuming current age-specific uptake rates, though modified in the case of women by changes to the age of eligibility.[18] This is not to suggest that take-up rates will always remain the same as at present, as many factors in addition to policy changes can affect these. Rather, it simply provides a comparative benchmark based on current take-up rates. With this caveat in mind, numbers in the oldest regions—Tasmania and South Australia, approximately double by the middle of the projection period, but then level off and/or decline. The growth in numbers for Victoria and New South Wales is somewhat greater but also decelerates from about 2035. By contrast, reflecting their currently younger age

structures, projected numbers of Age Pension recipients in the ACT, Queensland, Western Australia, and Northern Territory, soar.

Figure 9: Projected Numbers Receiving Age Pension (Indexed to 1999), By Sex and State/Territory



Source: Constructed from ABS (2000) Catalogue No. 4102.0, Table 1 - according to national age distribution of Age Pension, and ABS Population Projections, Catalogue 3222.0 (Series II)

Nationally, the underlying numbers receiving Age Pension are projected to more than double (144 per cent) over the next 50 years, from around 1.7 million in 2000, to 4.1 million by 2050, but to more than treble and quadruple in the currently younger regions. The increase could be even greater for males, in part because those males who currently receive a Veterans Pension are not included in these numbers, while those from successive cohorts who 'replace' them, will be. However, any such increase will to some extent be ameliorated by expected increases in the proportions of both males and females with access to private/occupational superannuation (Department of Health and Aged Care 2000). That said, for females especially, the latter should not be assumed too prematurely, as relatively few of those at or currently approaching retirement have had strong or uninterrupted labour force attachment (Olsberg and Ferris 2001). It is likely to be some years yet—it would appear twenty or more—before high proportions of adequately superannuated women arrive at retirement age.

Either way, a point of some importance needs to be considered here. While the analysis focuses on regional differences, the Age Pension is a Federal expense. Regions that have higher proportions of elderly may in fact soon come to appreciate the likely local spending of these pensions. Indeed, according to Access Economics (2001), the forthcoming growth in the numbers of elderly—pensioners and self-funded retirees alike—will drive a bonanza in aggregate demand. Those over the age of 55—currently 21 per cent nationally—own approximately 39 per cent of the nation's household wealth and are expected to account for more than 43 per cent of the total growth in retail spending over the next decade alone. Significant cohort-related differences in these spending patterns are already evident sub-regionally (Access Economics 2001:64-76). Similarly the 'cashing up' of private superannuation that has previously been invested in urban-based schemes will see a return of funds to some regional areas.[19]

Towards a regional perspective on population ageing:

Natural population growth in Australia is projected to end in approximately three decades, even with international migration gains of around 90,000 per annum. It is highly likely that this will be followed shortly thereafter by absolute population decline, due to increased competition for skilled migrants. Importantly, the shift from growth to decline will not occur simultaneously across Australia's States and Territories, but rather, will begin in the oldest state within the next two decades, and not manifest in the youngest region for another fifty or sixty years.

Three emerging issues of this temporality stand out. First, the current disparity between Australia's structurally youngest and oldest States/Territories will soon begin to escalate. Second, the force (or speed) with which the major impact of structural ageing will be felt in each region will differ equally markedly. Third, over the next 30-35 years, the shift from natural increase to zero growth and/or natural decline will affect the total, working- and school-age populations of five States. And it should be remembered that the trends and patterns presented here include a total annual net migration gain of 90,000 persons across the projection period. Thus, while some inter-regional shift-shares in the experience of migration may alter some of the specifics of the findings, in the absence of substantially higher international migration intakes, and/or purposeful regional distribution of international immigrants, it is unlikely that the relative regional patterns and trends will alter appreciably, at least in the short term.

These demographic shifts will deliver both positive and negative consequences to each region, and to different institutions within them. In the older regions, primary, secondary, and

tertiary education age populations will decline, and in some cases, plummet; in the younger regions, they will grow by similar margins. In the older regions the declines at tertiary education age will require substantial increases in age-specific participation merely to maintain university populations at or near their current size; in the younger regions even declines in age-specific participation are likely to see actual numbers increase. In the older regions, however, increases of the required magnitude cannot be assumed. The same structural ageing that is creating their need is also driving down the ratio of labour market entrants to exits, and is thereby likely to create competition between the labour market and educational institutions for the same young participants. Indeed, in the older regions, the shift to greater numbers of labour market exits than entrants will almost certainly generate an increase in demand for the labour of the young, thereby lowering those regions' unemployment rates. The trends thus also imply an increase in demand for older workers, and, potentially, in the medium to longer term, a reversal of some current interstate flows wherein labour may move to older regions where employment conditions are perceived to be better.

As a result of likely interactions between these factors, the typical focus of population ageing—the increased numbers and proportions of elderly—may therefore not become the 'problem' it has been conjectured to become (Rottier 2001, Kinnear 2001, cf. Peterson 2000). Certainly the increased numbers will have their sequel in marked regional differences in demand for Age Pension and other aged-related Welfare State goods and services, although it should be remembered that Age Pension is, on the one hand, a Federal expense, and on the other, largely spent locally. If the numbers of elderly and/or the duration of Age Pension income maintenance were to increase in isolation from the foregoing factors, older regions could indeed expect to have higher proportions of their populations dependent on income support. However, when the anticipated declines in unemployment or increases in employment are factored in, the total proportions so dependent may not increase on a *pro rata* basis. It also goes without saying that where older workers remain in the labour force for longer, their ability to provide for their retirement years—possibly further extended by increased life expectancy—will be enhanced, as will the economy in general (Access Economics 2001:38). Irrespective of this possible outcome, this paper has also shown that over the period to 2051, the currently oldest regions will experience substantially smaller (relative) increases in numbers receiving Age Pension than will their younger counterparts, and that by 2051 these numbers will be declining.

The longer term prognosis—albeit based on the limited range of considerations that could be covered here—is that population ageing may deliver as many positives as negatives,

supporting recent arguments by the Australia Institute (Kinnear 2001), Access Economics (2001) and others. In the short term, however, a continuation of crude practices such as per capita-based funding will mean that Australia's older regions are likely to experience disadvantage *vis-à-vis* the younger regions, and this could spell much social, economic, and political turmoil in the former. Certainly the positives of population ageing (e.g., increased employment and income opportunities for those of working age, increased spending by the elderly) and the initial negatives (declining school rolls, increased demand for the Age Pension, health and aged care, increased labour costs), will be experienced by different institutions.

There is little understanding among Australian politicians and polity alike that the phenomenal growth in the world's population during the second half of the twentieth century was a one-off effect of the demographic transition, and that this growth is coming to an abrupt end (Lutz, Sanderson and Sherbov 2001); that from now on, immigrants to Australia will be needed primarily to slow the eventual rate of decline—first of natural increase, then of natural and absolute decline—and to ameliorate its more negative consequences. Until there is widespread understanding of this broader situation, policy acknowledgement of Australia's profound regional differences in population ageing, and their equally profound consequences, will be slow in coming. In the interim, the complex mix of State, Federal and Local Government that adjudicates over related issues will have to contend with diverging demographic forces, and fortunes.

The research reported in this paper illustrates the disparate nature of population issues across the Australian States and Territories, implying the ongoing involvement of State, Territory and Local Governments. However, it also illustrates the need for central coordination of regional strategies—perhaps via a combining of Federal employment and immigration portfolios—so that regional population outcomes are not too much influenced by contradictions between them.[20] The formulation of a cohesive policy—or at least strategy—on population ageing and intrinsic decline appears to be an urgent yet complex issue, and warrants much further analysis.

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[1] Almost three quarters of Australia's population live in three States: New South Wales (34.0%), Victoria (25.0%), and Queensland (18.3%). The remaining 23 per cent live in Western Australia (10.0%), South Australia (8.0%), Tasmania (2.6%), the ACT (1.7%) and the Northern Territory (1.0%).

[2] Fiscal equalisation is designed to equalise the *capacity* of States and Local Governments to provide services, not the outcomes, which are affected by State and Local Government policies. See http://www.cgc.gov.au for detail.

[3] S*tructural* ageing is the increase in the *proportion* of the population that is elderly, due, primarily, to falling fertility. Often, however, pronouncements on the topic of population ageing refer to the absolute growth in elderly population (numerical ageing), or a conflation of the two. The policy significance of the distinction is noted in Jackson 2001:2-3.

[4] The detailed fertility, mortality, and migration assumptions underlying these Series II projections can be found in ABS (2000) Population Projections, Catalogue 3222.0, Chapter 4—see Tables 4.10, 4.20, 4.30 etc., for each State/Territory. In brief, fertility assumptions range from 1.41 in the ACT to 1.92 in the Northern Territory, life expectancy increases by one year for every ten years projected, while the bulk of net international migration gains (90,000 per annum) are assumed to go to NSW (42%), Victoria (23%), Queensland (16%), and Western Australia (14%). South Australia receives around 3.5%, and the remaining 1.2% is divided between the Northern Territory, ACT, and Tasmania (approximately 0.7%, 0.3%, 0.2% respectively). Interstate migration is similarly apportioned according to current regional distribution patterns.

[5] This is not to deny that—according to numerous media reports—most States and Territories currently experience a shortfall in funding for aged care, the ACT included. Rather, it reflects the comparative 'reality' of the regional demographic differences.

[6] The speed with which the Northern Territory will eventually age is difficult to ascertain, since it is not projected to reach even 10 per cent aged 65+ years until around 2048.

[7] It must also be noted that the ACT is not funded by the CGC, but directly by the ACT Government. However the point remains for all other States and Territories.

[8] Rowland (2000:56) defines hyper-ageing as the as 'an excessive degree of ageing entailing an increase in the proportion of older people to a level that cannot persist unless the population declines'. Although Ogawa (2000:83) doesn't use the term hyper-ageing, his description of the simultaneity of the achievement of 20% aged 65+ with the onset of natural decline is similar. Hyper-ageing may thus be thought of as coinciding with the onset of natural decline.

[9] This situation differs to that at the level of the total population, where, as Kippen and McDonald (2000) have clearly demonstrated, net migration since 1947 has had a minimal effect on Australia's total age structure. By contrast, significant regional differences in the experience of net migration have, in the case of Tasmania, hollowed out the age structure over the key reproductive ages (18-38 years), and in the ACT, added a similar proportion at the same ages.

[10] Replacement migration is that which replaces 'lost' births. However, because fertility is also falling in all developing countries, and these countries are also expected to stop growing and begin to decline around the end of the century, international immigration as a means of resolution can be a short-term response only. For an excellent critique of the situation, see McNicoll (2000).

[11] Since 1945 Tasmania has gained 232,431 persons from natural increase against a total net migration loss of 1,413.

[12] The United Nations (2000) publication *Replacement Migration* makes it clear that Australia's historical sending countries are those already entering, or about to enter, natural decline, and that those countries will either have to increase their migrant intakes or go into absolute decline. Several have already become net receiving countries. Both Japan and China are also currently reviewing their replacement migration options, implying forthcoming competition from those quarters as well.

[13] Where the medium case assumptions for Tasmania are based on an annual total net migration loss of 1,871 across the projection period, and fertility falling to 1.65 by 2009, the best case assumes a total net migration loss of 313 and fertility remaining at its current level (1.8).

[14] These data include overseas students attending university in each State. The data thus give *ratios* of numbers of students at each age to numbers of population at each age in each State, rather than *rates*.

[15] For Australia the basis of the argument is that the objectives of AUSTUDY as laid out in the 1986-87 Budget were specifically to reduce youth unemployment by ensuring increased access to higher secondary and tertiary education.

[16] This analysis carried out by the authors. Data available on request.

[17] Here we are referring to the economic premise that the demand for labour is derived from an *a priori* demand for commodities and services (i.e., labour demand = 'derived demand').

[18] The Australian Age Pension is funded from universal taxation, and is available to all Australian citizens (and citizens of certain other countries) meeting certain eligibility and entitlement criteria, uppermost among which are level of income and age. Recent changes to the age of eligibility for women accessing a Pension have been built into these projections; these are, an incremental increase from age 60 to 65 between 1999 and 2013. For information on Australia's Age Pension see http://www.centrelink.gov.au/internet/internet.nsf/payments/age_pension.htm.

[19] Trevor Budge, Research Planning Design Group, Bendigo, personal communication, Sydney, 2002.

[20] An excellent exposition of the similar problems faced by the European Union is given in House of Lords 2001 (*Select Committee on European Union, Thirteenth Report 1999-2002)*. See also McDonald and Kippen 2001.