

# SUSTAINABLE DEVELOPMENT PANEL REPORT

Chair: The Hon Bob Carr

An appendix to  
A Sustainable Population for Australia  
issues paper

Report commissioned by the Hon Tony Burke MP  
Minister for Sustainability, Environment, Water, Population and Communities  
December 2010

# SUSTAINABLE DEVELOPMENT PANEL REPORT<sup>1</sup>

---

## **EXECUTIVE SUMMARY**

**SECTION 1:** WHAT DOES IT MEAN TO BE SUSTAINABLE AND ARE WE LIVING SUSTAINABLY NOW?

**SECTION 2:** ENVIRONMENT – A RAPIDLY GROWING POPULATION MEANS A LESS SUSTAINABLE AUSTRALIA

**SECTION 3:** SUSTAINABLE COMMUNITIES

**SECTION 4:** ECONOMIC PROSPERITY DOES NOT REQUIRE A “BIG AUSTRALIA”

**SECTION 5:** POLICY DIRECTIONS

---

<sup>1</sup> This report was prepared by the Sustainable Development Panel, chaired by the Hon Bob Carr. While panel members support the broad sentiments contained herein, specific proposals, arguments, tone or style may be supported with differing degrees of conviction by particular members of the panel.

## EXECUTIVE SUMMARY

In the last year Australians learnt that their population was projected to be over 35 million, instead of the expected 28.5 million, by 2050. They realised immigration had been increased to the point where the annual intake was running at double what it was four years ago. This came during a time when most of the country experienced water restrictions, pressure on existing health infrastructure and increasing congestion in our cities.

The reaction to this has been a debate about immigration levels and population growth. As a result the notion of a Big Australia became contested. The debate has questioned whether high population growth generates meaningful economic growth. Above all, it has raised the question of the very sustainability of human activity on the continent of Australia.

The head of the Federal Treasury Ken Henry observed in 2009 that evidence “suggests that with a population of 22 million people, we haven’t managed to find accommodation with our environment. Our record has been poor and in my view we are not well placed to deal effectively with the environmental challenges posed by a population of 35 million.”<sup>2</sup>

The debate has produced strong evidence that Australians have serious reservations about higher population levels:

- The ANU found “more than half of Australians want the country’s population to stay at or go below current levels;”<sup>3</sup>
- The ACNielsen poll found 51 per cent of respondents considered a population of 36 million by 2050 too high, 27 per cent about right and 2 per cent too low;<sup>4</sup>
- The Australian Survey of Social Attitudes found 72 per cent of respondents believe ‘Australia does not need more people’.<sup>5</sup>

It is the view of this panel that the overall population size, including immigration intake, must be linked to key indicators of sustainability, especially as rapid population growth is going to make the mitigation of climate change far more difficult.

This report is not a criticism of immigration or immigrants. It is a reasoned examination of the pressures on Australia’s environment, society and economy, and how a sustainable population policy will allow us to secure Australia’s future. Children will continue to be born in Australia, people will visit our shores, and migrants will still be welcomed to make their home here. But policies that guide the numbers of people and shape their combined impact on our economy, society and environment must be developed with a firm eye on the long-term future of our country.

The panel emphasises that Australia’s treatment of refugees should be in line with its ethical and humanitarian obligations, and is a matter separate to the discussion of a sustainable population.

---

<sup>2</sup> “The Shape of Things to Come: Long Run Forces Affecting the Australian economy in coming decades” 22 October 2009 <http://www.treasury.gov.au/contentitem.asp?NavId=008&ContentID=1643>

<sup>3</sup> ANU poll, released 26 October 2010

[http://www.anu.edu.au/anupoll/content/news/article/anupoll\\_tracks\\_population\\_growing\\_pains/](http://www.anu.edu.au/anupoll/content/news/article/anupoll_tracks_population_growing_pains/)

<sup>4</sup> AC Nielsen poll, 15-17 April 2010

<http://mumble.com.au/federal/pdfs/Nielsen%20Poll%20Issues%20%20Health%20Immigration%20Popn%20Asylum%20Apr%202010.pdf>

<sup>5</sup> Betts, K. “Attitudes to immigration and population growth in Australia 1954 to 2010: an overview” in *People and Place*, 18(3), 2010

This report is a contribution to the debate about sustainability in Australia. It deals with the cumulative impact of people in terms of numbers, lifestyle and the available technology, and what that combined effect means for the sustainable future of Australia. It argues that the rate of increase is important – the more rapid the increase, the higher the necessary investment in infrastructure and the greater the risk of negative consequences. The report warns against excessive growth – a rate that costs more than it can benefit Australia.

In this report we challenge the myth that rapid rates of population growth, based on high rates of immigration, are necessary to support high rates of economic growth and Australians' being better off.

But our most important contribution is the proposal that, in future, population policy and immigration intake be linked to, and made dependent on, progress in meeting key indicators of sustainability.

The key proposals of this report are:

1. Australia needs rigorous indicators of sustainability. Population growth (and by implication immigration) should be linked with progress on these indicators. Indicators should include: biodiversity preservation; substantive reduction in urban encroachment; enhanced water efficiency and enhanced housing affordability and availability.
2. Australia should engage in a national dialogue about what aiming for a stable population would mean and how it should be achieved.
3. Australia will benefit from a Sustainability Commission that produces sustainability indicators, reports to the Australian parliament annually on progress, and guides debate about sustainability and sustainable population levels. Sustainability Indicators should be used as a basis of policy formation generally, including through the use of Sustainability Impact Statements to inform government policies and investments.
4. The Government should consider reforms to the immigration program that allow it to exercise more control over immigration levels.

# SECTION 1 WHAT DOES IT MEAN TO BE SUSTAINABLE AND ARE WE LIVING SUSTAINABLY NOW?

**Key message:** A sustainable Australia is one that allows its people to live socially engaged and prosperous lives in a healthy environment. It means meeting the needs of the current population without compromising capacity to meet future needs.

There are clear signs of economic, social and environmental stresses in Australian society that would suggest we are not living sustainably now. Business as usual is not an option.

## **Sustainability: ensuring a high quality of life for future Australians**

This Panel's concern about population growth stems from its hopes for the future. We want the future Australia to be prosperous and productive, provide opportunities for all its inhabitants to live lives of meaning and social engagement, within a healthy and resilient environment. In short, we consider a sustainable community to be one that offers all human beings the opportunity to lead a fulfilling life, without degrading the natural environment. The panel appreciates the value of a vibrant economy, but a healthy economy cannot exist without a healthy society and this in turn cannot exist without a healthy environment.

Too often, intensive use of natural resources has been pursued without considering the long-term economic and ecological costs. For example, collapse of fisheries and the over extraction of water from rivers are not just ecologically damaging, but can ruin communities and businesses that depend on sustainable use of those resources. Overuse of natural resources is bad economic management. We must align economic activities with ecological and social realities, and must ensure that short-term financial returns do not take precedence over our long-term economic interests in a healthy environment.

This Panel has set out some sustainability indicators in Table 1.1 (p.8). This is not comprehensive, and considerable work is required to further develop a rigorous set of sustainability indicators that can help guide Australian development, including rates of population growth.

## **Sustainability needs a broad range of measures**

A useful approach to clarifying what is meant by sustainability is to identify a list of indicators that illustrate whether we are, or are at risk of becoming, un-sustainable.

Sustainability becomes a question of understanding constraints on decision making about the viability of the number of people who live in Australia, constraints imposed either by the capacity of technology to reduce impact, or the cultural expectations of Australians about their consumption, or what kind of Australia people are prepared to live in. There are several useful international frameworks that could help guide the development of a set of sustainability indicators for Australia.

The Organisation for Economic Cooperation and Development (OECD) has proposed "A Framework to Measure the Progress of Societies", which identifies 26 indicators spanning the "final goals" of human wellbeing and ecological condition, the "intermediate goals" of economy, governance and culture, and the links between these sets of goals (see Attachment A).<sup>6</sup>

<sup>6</sup> Giovannini, E., Hall, J., Morrone, A., Ranuzzi, G., *A Framework to Measure the Progress of Societies*, 2009, <http://www.oecd.org/dataoecd/40/46/43631612.pdf>

The United Nations (UN) has adopted a complementary framework integrating environmental considerations into the System of National Accounts.<sup>7</sup> The System of Integrated Environmental and Economic Accounts (SEEA) provides an internationally comparable way of accounting for natural assets, ecosystem services, and national policies and expenditure. Australia has released periodic water and energy accounts consistent with the SEEA, but implementation across biodiversity and natural resource issues is lacking. A full implementation of SEEA could provide a comprehensive national overview of the relationship between our environment and economy.

Australia can also learn from the experience of other nations. The United States has recently established a “Commission on Key National Indicators”, with a standing mandate to develop a set of national progress measures in conjunction with the US National Academy of Sciences and the Government Accountability Office (GAO).<sup>8</sup> Because the US Commission was established by legislation, it can be expected to have an ongoing influence beyond the term of current administration.

It is indicators like these that represent the signposts by which to assess the trajectory of development and population growth, the well-being of our communities and the health of our natural resources.

The Panel’s thinking reflects the conceptual progress made by the *Commission on the Measurement of Economic Performance and Social Progress*. Its report<sup>9</sup> found that:

- GDP and GDP/capita are inadequate metrics of economic progress and living standards, and especially poor metrics of broader well-being over time (see box 1.1 for alternate measures of economic prosperity); and
- As no single measure can summarize the well-being of the members of society, a well-identified dashboard of indicators is useful in assessing sustainability.

---

<sup>7</sup> <http://unstats.un.org/unsd/envaccounting/seea.asp>

<sup>8</sup>The legislation establishing the US Commission is at: <http://www.stateoftheusa.org/assets/Section%205605%20KNI.pdf>. A useful description of history and current status of the commission is at: <http://www.stateoftheusa.org/content/work-begins-on-first-official-key-national-indicator-system.php>

<sup>9</sup> Stiglitz, J, Sen, A and Fitoussi, J.P *Commission on the Measurement of Economic Performance and Social Progress – issues paper*, 2008

### **Box 1.1: Alternate measures of economic prosperity**

GDP measures the total market value of goods and services produced in an economy. It is essential for monitoring economic activity. However, GDP is not a comprehensive measure of living standards or an effective measure of economic progress.

In *Measures of Australia's Progress*, the ABS uses real net national disposable income (RNNDI) to measure income accruing to Australians. Compared to GDP, this measure adjusts for: (1) the net income accruing to foreigners and depreciation (as these are not available to Australians to raise wellbeing); and (2) for changes in export and import prices, as they affect the purchasing power of Australia's output. At an experimental level, the ABS has also released GDP as adjusted for resource depletion and land degradation.

Rather than national aggregates, measures of income most relevant to wellbeing are at a household or individual level. Disposable household income includes the effect of taxes, social benefits and interest payments to reflect the true spending power of households.

However, all market-based measures (including GDP and RNNDI) have inadequacies when measuring economic activity. By omitting non-market activity, they ignore valuable contributions such as volunteering, household work, parenting, and caring for the sick or infirm. The ABS estimates that total unpaid work is equivalent to 48 per cent of GDP. Further, by omitting the productive value of ecosystem services, such measures can encourage a one-sided view of environmental policy debates.

These measures of economic activity do not capture the intangibles relevant to wellbeing, such as community connections and enjoyment of the environment, nor do they capture the distribution of wealth.

Sources: ABS *Measures of Australia's Progress*, 2010 (cat 1370.0)

[http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1370.0~2010~Chapter~National%20disposable%20income%20\(5.1.2\)](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1370.0~2010~Chapter~National%20disposable%20income%20(5.1.2))

) ABS *Unpaid work and the Australian Economy*, 1997 (cat 5240.0)

<http://www.abs.gov.au/ausstats/abs@.nsf/mediareleasesbytitle/EDC1844960BE61F4CA256973007FCCBF?OpenDocument> (cat 5240.0)

In a country as vast as Australia, nationally aggregated data will not be able to capture the inevitable variation that will occur across regions and within some regions<sup>10</sup>. For example, given the variability in rainfall and congestion, it would be futile to try to represent water adequacy or travel times with a single number. Similarly, the impact of population is not uniform across Australia.<sup>11</sup> To effectively represent sustainability and how it can be affected by population, indicators need to capture regional difference and demonstrate how increased population may affect different regions.

This is especially true of biodiversity. The Wentworth Group of Concerned Scientists has accordingly proposed a regionally-based set of national environmental accounts. This framework would entail annual reports for each of Australia's 56 natural resource management regions, covering five critical environmental resources.<sup>12</sup> The adoption of this or a similar framework would generate the data needed to inform regional decision-making, including on population-related issues.

### **How are we tracking now?**

Australia is a prosperous society, with rising income and wealth in per capita and per household terms, relatively low unemployment and a culturally rich and diverse society. Many Australians

<sup>10</sup> This Panel notes that there is some disagreement around the definition of 'regional' with no single accepted definition at present.

<sup>11</sup> For example, the Australian Bureau of Statistics' medium growth projections estimate that Australia's population overall will rise by 69 per cent by 2056, but population in the Brisbane area will grow by 114 per cent. ABS *Population Projections, Australia 2006 to 2101* (cat 3222.0) <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3222.0>

<sup>12</sup> Wentworth Group, "Accounting for Nature", <http://www.wentworthgroup.org/blueprints/accounting-for-nature>

enjoy high standards of living, and some enjoy high amounts of leisure time and a freedom that affords significant opportunities.

However, this economic prosperity is not enjoyed by all. While unemployment is relatively low, underemployment is widespread. There remains significant persistent disadvantage evident in large sections of the community such as indigenous Australians, those with disabilities, and the long term unemployed. There is also a question of the cost of this material prosperity, with declining biodiversity, increasing greenhouse gas emissions and resultant climate change, questions about the quality and availability of water and the encroachment of urban settlements on arable land and the natural environment.

Taken together, the present state of our economy, social health and resilience of our natural systems, show that there are very real stresses in our nation that call in to question the sustainability of our current way of life.

**Table 1.1: Indicators of Sustainability**

<b>Concepts</b>		<b>Suggested measures for a sustainable environment, society and economy</b>	
<b>Environmental Sustainability</b>			
Land		<ul style="list-style-type: none"> <li>• Healthy landscapes with a diversity of native species</li> <li>• Expansion of urban land into biodiversity hotspots; ecosystem trends</li> <li>• Land use, including proportion of land for conservation purposes</li> <li>• Health of soil and ecosystem services</li> </ul>	
Water		<ul style="list-style-type: none"> <li>• Health of coastal, estuarine, marine and freshwater ecosystems</li> <li>• Volume and proportion of water secured for the environment; volume of water used by agriculture and other industries in relation to the value of these sectors' outputs</li> </ul>	
Climate Change		<ul style="list-style-type: none"> <li>• Greenhouse gas emissions and emission reduction (total and per capita)</li> <li>• Total energy use; energy use per capita</li> <li>• Investment in and adoption of clean energy and low emission technologies</li> </ul>	
<b>Sustainable Communities</b>			
The health (and longevity) of human settlements/population		<ul style="list-style-type: none"> <li>• Self reported measures of social capital (civic engagement, trust and volunteering)</li> <li>• Housing affordability, home ownership and homelessness</li> <li>• Air quality as it affects human health</li> <li>• Opportunities for meaningful employment</li> <li>• Water adequacy and quality for agricultural, industrial and household use</li> <li>• Food security for local consumption and for export</li> <li>• Well-being and life satisfaction</li> </ul>	
Adequacy of social services and infrastructure		<ul style="list-style-type: none"> <li>• Health status and health care</li> <li>• Quality education and training (including childcare and preschool waiting lists; access to primary, secondary and tertiary education)</li> <li>• Cultural infrastructure (including access to nature for people in cities; access to the arts; protection of cultural heritage)</li> <li>• Overuse of existing levels of infrastructure, including traffic congestion and availability of public transport</li> </ul>	
<b>Economy</b>			
Economic growth and productivity		<ul style="list-style-type: none"> <li>• Real net national disposable income per capita, less depletion and other ecological costs</li> <li>• Household wealth and its distribution</li> <li>• Growth in multifactor productivity and the skills of Australian workers</li> <li>• Adequacy and cost of meeting infrastructure requirements in no-growth and growth scenarios</li> </ul>	

## SECTION 2 THE ENVIRONMENT – EXCESSIVE POPULATION GROWTH MEANS A LESS SUSTAINABLE AUSTRALIA

**Key messages:** Indicators of biodiversity loss, water efficiency, and efficiency of land use are required. High population growth (and high immigration) should be conditional on improvements in these indicators.

Continued urban encroachment will further harm biodiversity and reduce the environmental sustainability of urban living.

Water availability in Australia's dry and variable climate is at risk. A larger population means increased water prices and less water for the environment.

A larger population means higher greenhouse emissions and more costly adjustment for Australians to climate change.

### Land

Healthy ecosystems and the biodiversity within them are the foundation of a healthy environment. Healthy ecosystems provide the fundamentals of life, like freshwater, clean air and food products. However, the continued growth of urban settlements threatens our biodiversity.

#### ***Our urban settlements are growing***

A range of indicators demonstrate the growing size of Australia's cities and towns. Since the 1990s, the density of Australian capitals fell as expansion in their urban footprint exceeded growth in their population<sup>13</sup>. Some cities do perform better than others: in the urban centres of Sydney, there are 2,037 residents per km<sup>2</sup>, Brisbane only 918 per km<sup>2</sup> and Canberra 1,102 people per km<sup>2</sup>.<sup>14</sup> In any case, the growth of Australian cities has meant more urban encroachment as growth on the urban fringe has occupied more land.

This expansion has occurred despite seemingly positive changes to urban policy. Since 2002, all mainland eastern state capitals and Adelaide have attempted to limit urban growth with targets to deliver new housing through use of urban infill. It is through their frequent breach that such commitments are most notable.

#### ***And our biodiversity is suffering as a result***

The Australia Government has identified "population growth and unsustainable development" as one of the major current and long-term threats to Australia's biodiversity.<sup>15</sup>

And for good reason: urban expansion and the growth of populations in coastal regional areas has intensified many pressures on natural systems. Growth results in loss of habitat as land is cleared for residential and infrastructure purposes, and remnant habitat is fragmented. Growth in urban areas has also led to declining water availability and quality, changes in fire patterns, increased risk of introduced non-native species (including weeds, pets and livestock), and numerous other direct and indirect impacts.

The impact of urban encroachment is demonstrated in the growth of Perth over the past 80 years (figure 2.1 below). This region with its high level of endemic species is recognised as one

<sup>13</sup> Roberts, B.H., *Changes in Urban Density: Its implication on the Sustainable Development of Australian Cities*, p. 720, <http://www.fbe.unsw.edu.au/cityfutures/SOAC/changesinurbandensity.pdf>

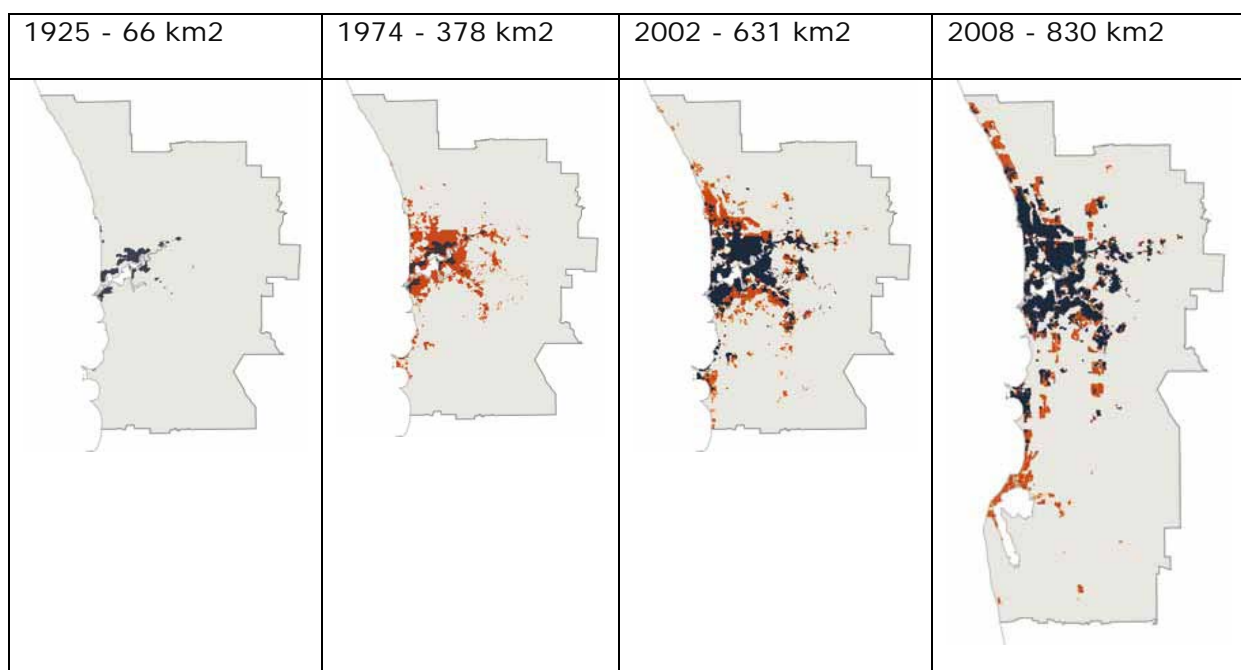
<sup>14</sup> Infrastructure Australia, *State of Australian Cities 2010*, 2010, p. 40

<sup>15</sup> *Australia's fourth National Report to the United Nations Convention on Biological Diversity*, 2009 <http://www.cbd.int/doc/world/au/au-nr-04-en.pdf?source=cmailer>, p. 19

of 32 biodiversity hot spots internationally. Yet, nearly 80 per cent of the bio-region in the Swan coastal plain has been cleared for both urban development and agriculture.<sup>16</sup> As a consequence 42% of threatened ecosystems in all of Western Australia are in the Swan Coastal Plain region.<sup>17</sup> In six high growth local government areas in this region, more than 10% of remaining native vegetation was cleared from 2001-2004 alone.<sup>18</sup> There are 10 critically endangered and 6 endangered ecological communities in the bioregion, as well as dozens of threatened species.<sup>19</sup> Especially notable is the Western Swamp Tortoise (*Pseudemydura umbrina*), Australia's most endangered reptile, which remains at risk from further urban development pressures around Perth.<sup>20</sup>

Even with a focus on urban infill and other planning strategies, few involved in the process are confident that the pressure of development can be fully ameliorated. The WA Government itself has highlighted the “enormous development pressure” caused by “urban sprawl along the coast due to the increasing population of Perth.”<sup>21</sup>

**Figure 2.1: Growth in urban boundary of Perth**



Source: Department of Planning, Western Australian Planning Commission<sup>22</sup>

Loss of biodiversity in areas of high population growth is a consistent pattern right across Australia. In rapidly growing Southeast Queensland, the state government has found that “many of the region's remaining natural areas have been degraded as human use pressures have intensified.”<sup>23</sup> Coastal heath and sedgeland have been intensively cleared for development. In many cases, remnant habitat has been so fragmented that it may be unviable over the long-term, unless strategies are pursued to restore ecosystem connectivity.

<sup>16</sup> Southwest Australia Ecoregion Initiative, *The Southwest Australia Ecoregion – Jewel of the Australian Continent* 2006, pp.8-9 <http://wwf.org.au/ourwork/land/southwest-australia-ecoregion/>

<sup>17</sup> Environment Protection Authority, *State of the Environment: Western Australia 2007*, p.133 [http://www.soe.wa.gov.au/site/files/pdf/5\\_WA\\_SOE2007\\_BIODIVERSITY.pdf](http://www.soe.wa.gov.au/site/files/pdf/5_WA_SOE2007_BIODIVERSITY.pdf)

<sup>18</sup> *Ibid*, p.135

<sup>19</sup> <http://www.anra.gov.au/topics/vegetation/assessment/wa/ibra-swan-coastal-plain.html>

<sup>20</sup> <http://www.environment.gov.au/biodiversity/threatened/publications/wa2003.html>

<sup>21</sup> Department of Planning, *Status of Coastal Planning in Western Australia* 2010, pp. 12-13

<http://www.planning.wa.gov.au/Plans+and+policies/Publications/2130.aspx>

<sup>22</sup> Department of Planning and the Western Australian Planning Commission, *Directions 2031 and Beyond 2010*, p.8

<http://www.planning.wa.gov.au/Plans+and+policies/Publications/2224.aspx>

<sup>23</sup> [http://www.derm.qld.gov.au/environmental\\_management/coast\\_and\\_oceans/coastal\\_management/regional\\_coastal\\_management\\_plans/southeast\\_queensland\\_coast/](http://www.derm.qld.gov.au/environmental_management/coast_and_oceans/coastal_management/regional_coastal_management_plans/southeast_queensland_coast/)

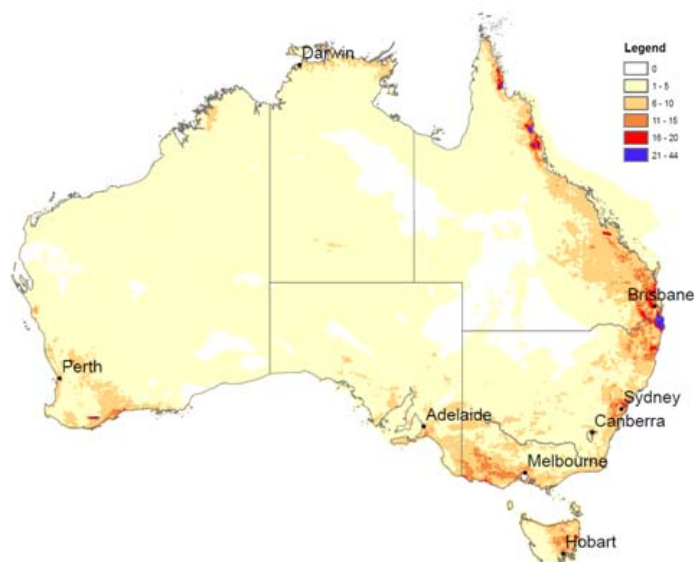
Further, in many areas Australia lacks the basic data on the stock, condition and trend of ecosystems, and how they underpin local economic prosperity. There is an urgent need to invest in the monitoring and reporting of ecosystem health. The establishment of a National Environmental Information System in the 2010 budget was a welcome start, but far greater resources will be required.

### ***There will be little improvement if action is not immediate***

There is a correlation between projected growth and greater threat of species extinction and vegetation clearing, as reflected in figure 2.2. The threat is obvious in Queensland, for instance, where the significant loss of biodiversity coincides with areas of rapid population growth – all regions from Townsville through to the South East corner where population is projected to grow by more than 50 per cent between 2006 and 2031.<sup>24</sup>

Declining biodiversity is almost certainly going to be the result if there is continued urban growth. Projected population growth means capital cities will grow out or up, or a combination of the two. There is no alternative. Too much growth is occurring on the urban fringe with a big biological cost, let alone the economic cost of necessary new infrastructure.

**Figure 2.2: Number of threatened species**



Source: The Department of Sustainability, Environment, Water, Population and Communities

### ***Urban consolidation offers an alternative to cities growing out***

Urbanisation can have positive environmental implications. Indeed, the UN report, *State of the World's Cities 2008/09 – Harmonious Cities*, shows compact and well-regulated cities with environmentally-friendly public transport system can have positive impacts on the environment in comparison to more dispersed settlement patterns.<sup>25</sup>

<sup>24</sup> Queensland Government, *Queensland Government population projections to 2056: Queensland and statistical divisions* (3<sup>rd</sup> edn; 2008), p.2 <http://www.oesr.qld.gov.au/products/publications/qld-govt-pop-proj-2051-qld-sd/qld-govt-pop-proj-2056-qld-sd-2008.pdf>

<sup>25</sup> UN-HABITAT, *State of the World's Cities 2008/2009 – Harmonious Cities*, p. xiv <http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2562>

**Policy condition for sustainability 1:** Australian capitals should achieve a higher proportion of new housing starts in existing areas as opposed to the urban fringe. State Governments should be required to achieve the 70 per cent urban consolidation rate achieved by Sydney in recent years as a precondition for immigration at the levels we have recently seen. This may require federal government contribution to the metropolitan strategies of Australian capital cities.

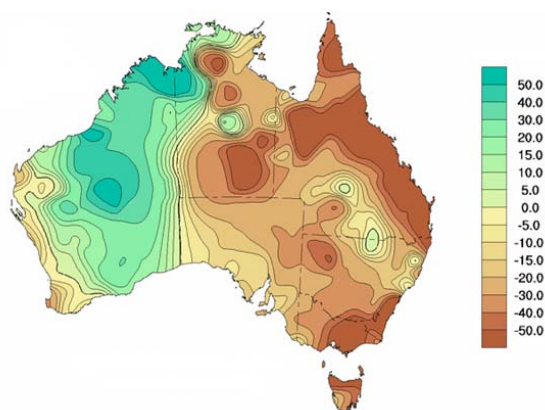
**Policy condition for sustainability 2:** Governments should ensure urban expansion does not drive biodiversity loss either at the national or regional level. While the panel recognises data on biodiversity is limited in some regions, the regionally-based national environmental accounts proposed by the Wentworth Group of Concerned Scientists would provide a useful reference for measuring the health of Australia's biodiversity. Direct conservation and action to curb pressures directly driving biodiversity loss, including habitat loss, invasive species and pollution, will be needed.

## Water

The recent breaking of the drought in the eastern states has allayed some anxiety about the availability of water. Climate model projections from the Commonwealth Scientific and Industrial Research Organisation (CSIRO)<sup>26</sup>, however, show an 'increasing risk of below average rainfall for southern and eastern mainland Australia, higher temperatures and evaporation, and below average runoff'. In particular there is a significant projected increase in the frequency of extremely hot years and extremely dry years.

Between 1997 and 2009, south east Australia has experienced below average rainfall. The parts of Australia where rainfall has been below trend from 1970-2009 correlate strongly with where the majority of Australians live (figure 2.3).

**Figure 2.3: Trends in Annual Total Rainfall 1970-2009 (mm/10yrs)**



Source: Bureau of Meteorology, <http://www.bom.gov.au/cgi-bin/climate/change/trendmaps.cgi?map=rain&area=aus&season=0112&period=1970>

### ***A growing population will drive up water demand***

The Water Services Association of Australia (WSAA) has projected that, even with population growth of 31 million people by 2056, (a projection lower than Treasury projections of 35.9 million by 2050<sup>27</sup>), water demand in the capita cities will be 64 per cent higher than it is today. If the

<sup>26</sup> <http://www.csiro.au/science/climate-and-drought-in-eastern-Australia.html>

<sup>27</sup> The Australian Government, *Australia to 2050: future challenges – the 2010 intergenerational report*, p. 5

population were to reach 45 million people, water demand would more than double. South east Queensland, in particular will face significant increases in demand for water, with projections suggesting water demand will at least triple between 2010 and 2056.<sup>28</sup>

### ***But higher demand cannot be met by future water savings***

Current capital city residential water consumption is low compared with historical levels. Per capita water consumption in Australian capitals declined by an average 19 per cent between 2003-04 and 2008-09, in line with water restrictions. However, improvements at this rate are unlikely to continue. Continued high population growth will, therefore, undoubtedly stress water supplies.

### ***The costly consequences of population growth on water availability and price***

#### *Higher urban water prices*

A study by CSIRO and Monash University projected water prices to rise by a minimum of 128 per cent and up to 1018 per cent out to 2032 (depending on differing policy assumptions). This reflects the combination of a 15 per cent reduction in water availability in the Eastern States and South Australia and population growing to 25 million by 2032, a rate of growth that is well below current projections. The policy scenario resulting in the least price impact for urban users – allowing water trading between rural and urban sectors – is the one that would have the most detrimental impact on water available for rural use, primarily agriculture.<sup>29</sup>

#### *Building alternative potable water sources*

Australia does not have abundant natural fresh water supplies throughout the country, and the threat of climate change and recently experienced periods of prolonged drought have raised serious questions about the security of water supplies. In our cities, the technological fix for potable water supplies favoured by state governments is to build desalination plants, thereby allowing for both population growth and a drying climate. However, the cost of these plants (for example, the projected cost of the current construction of the Adelaide Desalination plant is \$1.83 billion), which translate into real increases in water prices, is a prime example of the infrastructure costs associated with a rising population. In short – as population increases, the essential service of water supply will get much more expensive.

#### *And the cost to the environment*

Over-extraction and the effects of drought have already placed our water ecosystems under considerable stress. High population growth must mean less water for the environment. And that will make it even harder to restore the health of our rivers, wetlands and floodplains.

---

<sup>28</sup> Water Services Association of Australia, *Implications of Population Growth on Australia on Urban Water Resources*, Occasional Paper Po. 25, 2010

<https://www.wsaa.asn.au/Publications/Documents/201007%20WSAA%20Occasional%20Paper%2025.pdf>

<sup>29</sup> Young, M.D., Proctor, W., Ejaz Qureshi, M., Wittwer, G., *Without water The economics of supplying water to 5 million more Australians*, 2006, <http://www.myong.net.au/water/publications/WithoutWater.pdf>

**Policy condition for sustainability 3:** Governments should develop indicators of water effectiveness and make any return to higher population and immigration levels contingent on their achievement. Indicators could include:

- Water dependent ecosystems are healthy
- Declining or stable national water consumption per annum
- Declining or stable per capita urban water consumption
- National wastewater recycling rate of greater than, for example, 30 per cent

## Climate change

### ***A larger population means higher greenhouse emissions***

Australia is one of the highest per capita emitters of carbon pollution in the world.<sup>30</sup> A larger population will result in increased demand and consumption of resources, including energy use, which in turn leads to increased greenhouse gas emissions.

International emissions targets have been set independently of projected population growth. Australia's target of 60 per cent below 2000 levels by 2050 implies absolute emissions of 221 million tonnes in that year, whatever the size of the population.<sup>31</sup> The weight of accumulating scientific evidence suggests that far more ambitious emissions reduction targets may be required to avert the worst effects of climate change. A larger population will make meeting the current target more difficult and more costly to achieve.

### ***A larger population means the costs of adjusting to a low carbon future will increase***

Most sources of pollution – such as electricity generation and transport – will become larger as our population increases. According to CSIRO modelling conducted for the Department of Immigration, a “high growth” scenario resulted in 20 per cent higher pollution levels than a “medium growth” scenario by 2050.<sup>32</sup> The rate of pollution increase is only slightly lower than population growth rates, suggesting that overall “efficiencies of scale” are relatively insignificant in mitigating pollution.

In 2008, Australia's greenhouse gas emissions were approximately 27 tonnes per capita.<sup>33</sup> To meet our current emissions reduction target of 60 per cent by 2050 (absolute total emissions of 221 million tonnes per year), it is necessary for individuals to cut their emissions by approximately:

- 19 tonnes if the population grows to 29 million people by 2050
- 20 tonnes if the population grows to 36 million people by 2050

A larger population will require larger reductions targets for individuals, increasing the cost of mitigating climate change.

<sup>30</sup> World Wildlife Fund, *Living Planet Report 2010: Biodiversity, Biocapacity and Development*, p.36-39  
[http://wwf.panda.org/about\\_our\\_earth/all\\_publications/living\\_planet\\_report/](http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/)

<sup>31</sup> Department of Climate Change, *Tracking to Kyoto and 2020: Australia's Greenhouse Emission Trends 1990 to 2008-12 and 2020*, 2009, p. 21.

<sup>32</sup> *Future Dilemmas: Options to 2050 for Australia's population, technology, resources and environment*, Report to the Department of Immigration and Multicultural and Indigenous Affairs, 2002 p.181

<sup>33</sup> Derived from the National Greenhouse Gas Inventory emissions data (<http://ageis.climatechange.gov.au/>).

## SECTION 3 SUSTAINABLE COMMUNITIES

**Key message:** A rapidly growing population will increase pressure on infrastructure, community services and housing affordability.

A focus on urban liveability is crucial for ensuring integrated and healthy communities in the future.

### Housing affordability

#### *A growing population will add to housing costs*

Steep increases in housing and land costs since 1999 cannot be understood without reference to population pressures. The National Housing Supply Council (NHSC) estimates the underlying demand<sup>34</sup> for new dwellings at 161,000 per year<sup>35</sup>, with population growth (largely overseas migration) being the most significant driver.<sup>36</sup>

The number of dwellings being built, however, has failed to keep up, with commencements over the past five years averaging just 150,000 dwellings. In combination with impediments to the supply of housing,<sup>37</sup> strong population growth has contributed to significant house price rises.

Since 2000, house prices in capital cities have increased in excess of 50 per cent in real terms. Rents have also risen substantially, increasing by 17 per cent since 2000 with a steep increase in the past two years as rental vacancy rates have declined.<sup>38</sup> The NHSC project population growth will significantly add to strong demand for housing (see figure 3.1).

---

<sup>34</sup> Underlying demand refers to the need for housing based on the estimated number of households in the population. As well being driven by population growth, the number of households is influenced by the average number of people living per house, which is affected by demographic factors like ageing.

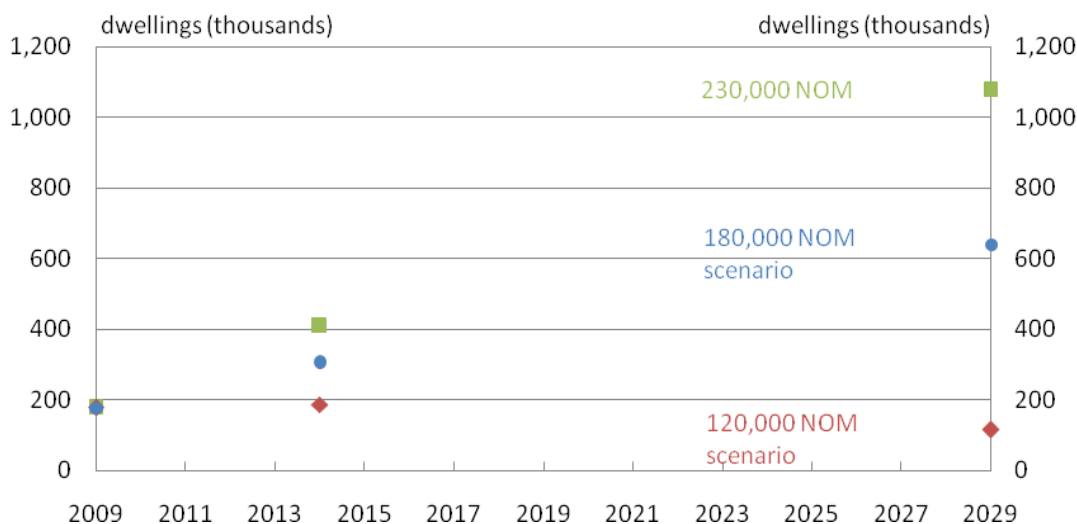
<sup>35</sup> National Housing Supply Council, *2010 State of Supply Report*, p. 27

<sup>36</sup> *Ibid*, p. xvii

<sup>37</sup> The NHSC identify aspects of the planning, assessment and tax systems that reduce the efficiency of the housing market, contributing to delayed and higher cost housing delivery, particularly for infill developments.

<sup>38</sup> Infrastructure Australia, *op cit.*, 2010, p. 101

**Figure 3.1: Projected demand-supply housing gap (cumulative) under alternative population scenarios**



Source: NHSC

Note: The projected demand-supply housing gap reflects the difference between total underlying demand and total supply of houses, as projected by the NHSC in the *State of Supply Report 2010*. The projections in the above chart are based on a medium adjusted net production and reflect the three household growth scenarios: high (230,000 Net Overseas Migration (NOM)); medium (180,000 NOM); and low (120,000 NOM).

As can be seen in figure 3.1, under the low growth scenario, the cumulative demand-supply housing gap is projected to fall from around 178,000 in 2009 to 116,000 in 2029, as the increase in net supply is greater than the increase in underlying demand. If the level of NOM is 180,000, however, we can expect the cumulative demand-supply gap to increase to over 640,000 dwellings over the next 20 years. The cumulative gap between demand and supply of dwellings is forecast to be even greater (over 1 million dwellings) if NOM is 230,000 over the next 20 years.

### **Higher housing costs have family and community consequences**

High house prices can lock out a younger generation from ownership, with the proportion of households aged 25 to 44 who either own or are buying their home falling from 63 per cent in 1995-96 to 55 per cent in 2007-08. Tony Richards of the Reserve Bank of Australia also suggested that the increased pressure of meeting mortgages is leading to a surge in hours worked among 25-39 year olds, from an average of around 46 hours a week in 2003 to 53 hours in 2009.<sup>39</sup> Attempts to find more affordable housing by moving to the fringe of cities can lower living affordability – *State of Australian Cities 2010* reports people living on the fringes of cities being highly exposed poorer quality of life outcomes through lack of amenity, vulnerability to petrol price increases and poor public transport options.<sup>40</sup>

Low-income and disadvantaged households are less likely to be able to purchase a home and more likely to be exposed to a costly rental market. The NHSC report that 445,000 (or 55 per cent) of low income renters pay more than 30 per cent of their income in rent.<sup>41</sup> It also found a shortage of 493,000 rental dwellings that are both affordable and available for renters in the bottom 40 per cent of the income distribution.<sup>42</sup> This reflects a declining rate of construction of

<sup>39</sup> Tony Richards 2009, <http://www.rba.gov.au/speeches/2009/sp-so-290909.html>

<sup>40</sup> Infrastructure Australia, op cit., 2010, chapt.6

<sup>41</sup> National Housing Supply Council, op cit., p. 101

<sup>42</sup> Ibid, p. 105

affordable rental housing, and affordable dwellings being occupied by higher income earners as rents rise.

Housing provides much more than shelter. It provides a foundation for family and social stability. As house prices and demand for housing increase, it is likely that these factors will “affect household formation decisions—manifested in homelessness, overcrowding, family breakdown and adult children remaining at home for longer periods”.<sup>43</sup>

While prices are affected by a range of factors, population growth is the major driver of housing demand over the long-run. Excessive rates of migration-driven population growth can also add fuel to speculative booms in land and housing that push prices beyond the reach of many families.

**Policy condition for sustainability 4:** Unless both the costs of purchasing the median value Australian dwelling at prevailing interest rates *and* median rents are meeting affordability benchmarks, migration should be restrained. One widely accepted benchmark of affordability suggests people are in housing stress when rental or housing costs exceed 30 per cent of income for households with income in the bottom 40 per cent of the income distribution.

## The community costs of urban expansion

Even with additional investment in infrastructure and planning policies that produce higher density cities, population growth can only put additional pressure on cities and render them more congested. Urban expansion that outpaces the capacity of governments to keep up with community services and transport infrastructure can result in a range of costs.

### *Larger, more congested cities*

A growing population will mean greater demands on transport systems. With the relative low density of Australia’s cities and generally limited public transport options, population growth will mean continued growth in car use. Passenger vehicles increased from 9.7 million in 1999 to 12 million in 2009.<sup>44</sup>

In 2005, the avoidable cost of congestion for the Australian capitals was reported to be approximately \$9.4 billion. By 2020, this cost is expected to rise to \$20.4 billion.<sup>45</sup> If not addressed, congestion will remain a burden on the economy and on the lifestyles of Australians living in the major cities.

Congestion is lengthening working hours and unfavourably tilting the work/life balance. For example, commuting travel times have been increasing over the past decade in Brisbane, Sydney and Adelaide.<sup>46</sup> Glib talk about increasing infrastructure spending or improved planning does not alter the equation: excessive population growth puts more pressure on cities and renders them more congested.

---

<sup>43</sup> Ibid, p. xiii

<sup>44</sup> *Measures of Australia’s Progress 2010*

[http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1370.0~2010~Chapter~Passenger%20vehicles%20\(4.9.3\)](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1370.0~2010~Chapter~Passenger%20vehicles%20(4.9.3))

<sup>45</sup> Bureau of Transport and Regional Economics (BTRE) 2007, *Estimating urban traffic and congestion cost trends for Australian cities, Working Paper 71*, p. 13

<sup>46</sup> Infrastructure Australia, op cit., p. 104

### **Urban expansion reduces farm land on the urban fringe**

Urbanisation and peri-urban growth in Australia is claiming arable farming land. It is estimated that Australian cities have spread across more than one million hectares of rural land since 1945.<sup>47</sup>

This conversion of land from rural to urban is projected to continue. Sydney's designated growth centres currently contain 52 per cent of Sydney's vegetable farming properties, 60 per cent of the greenhouse industries and 46 per cent of outdoor hydroponic vegetable industries.<sup>48</sup> Melbourne stands to lose 25,000 hectares of productive agricultural land by 2021, if current trends continue.<sup>49</sup> Similarly, approximately 110,000 ha of land was rezoned from rural to non-rural uses in the SEQ region alone between 1996 and 2003.<sup>50</sup> The continued loss of prime agricultural land will reduce Australia's ability to contribute to the world's growing food task.

To the extent that food production occurs on the urban fringe, Australia's future would be better served by a cautious approach to population growth. Moreover, Australia has a duty to the rest of the world to continue to be a significant exporter of food.

### **Excessive Population Growth and Rising Infrastructure Demand**

All levels of government in Australia face constant pressure to invest in capital works, these days called infrastructure. There is debate about how adequate infrastructure investment has been and whether Australia faces an infrastructure crisis.

What cannot be doubted is that ambitious increases in the immigration intake and hence population growth create more infrastructure pressure and render it a factor that must be weighed when considering the costs and benefits of high immigration. Business-aligned economists look at the increased domestic market produced by high population growth and consider it an economic benefit. Rarely, if at all, do such economists calculate the strain added to Federal, State and Local government budgets by the need to keep pace with additional surges of growth.

O'Sullivan<sup>51</sup> has attempted to illustrate the additional infrastructure burden generated by population growth. O' Sullivan argues that to maintain infrastructure at an adequate quality is likely to require a significant annual outlay, perhaps equivalent to replacing 2 percent of the stock per year. As O'Sullivan states, 'if population is growing at 2 per cent per annum we need to expand the capacity of our entire stock of infrastructure by 2 per cent per annum, or else we start building up an infrastructure deficit, and service access and quality declines.'<sup>52</sup>

No economic assessment of the benefits and costs of immigration are complete, in our view, without a serious attempt to come to terms with this analysis.

---

<sup>47</sup> Buxton, M. and Goodman, R. (2002), *Maintaining Melbourne's Green Wedges: Planning Policy and the Future of Melbourne's Green Belt*, School of Social Science and Planning, RMIT University, p76

<sup>48</sup> Infrastructure Australia, op cit., p. 87

<sup>49</sup> Planning Institute of Australia, Submission to Senate Inquiry into Food Production in Australia, 2010.

[http://www.aph.gov.au/Senate/committee/agric\\_ctte/food\\_production/submissions/sub43.pdf](http://www.aph.gov.au/Senate/committee/agric_ctte/food_production/submissions/sub43.pdf)

<sup>50</sup> <http://www.uq.edu.au/news/?article=7198>

<sup>51</sup> O'Sullivan "Submission to Population Policy Inquiry Local Government Association of Queensland", March 2010.

[http://www.lgaq.asn.au/c/document\\_library/get\\_file?p\\_l\\_id=621228&fileShortcutId=672191](http://www.lgaq.asn.au/c/document_library/get_file?p_l_id=621228&fileShortcutId=672191)

<sup>52</sup> Ibid, p. 10

*...and limits to productivity growth*

Overstressed infrastructure diminishes community well-being. It may also retard productivity growth as input costs and congestion rise. Congestion increases the costs of doing business and reduces national output. Based on projections of a population between 22 and 24 million in 2020, Bureau of Transport and Regional Economics (2007) estimate the social costs of congestion growing to 20 billion.<sup>53</sup> The Henry review stated that congestion acts as a tax on employment.<sup>54</sup>

---

<sup>53</sup> Bureau of Transport and Regional Economics (BTRE) 2007, *Estimating urban traffic and congestion cost trends for Australian cities, Working Paper 71*, p.13

<sup>54</sup> The Australian Government, *Australia's Future Tax System*, 2010, page 380  
<http://taxreview.treasury.gov.au/Content/Content.aspx?doc=html/home.htm>

## SECTION 4 ECONOMIC PROSPERITY DOES NOT REQUIRE A “BIG AUSTRALIA”

**Key Messages:** Economic prosperity is possible without high rates of immigration.

Population growth increases the size of the economy. It does not make Australian residents significantly better off as measured by GDP per capita (the most accepted measure of living standards).

Importantly, population (immigration) growth does not address skill and labour shortages or the changes foreshadowed by an ageing population.

### **There is no relationship between population growth and economic progress**

There are a range of studies that look at the relationship between population growth and per capita growth in the economy.<sup>55</sup> A consistent finding of nearly all this literature is that while immigration increases the size of the economy, it has only a neutral to negligible effect on per capita GDP growth<sup>56</sup> (see Attachment B for a review of literature on the economics of immigration).

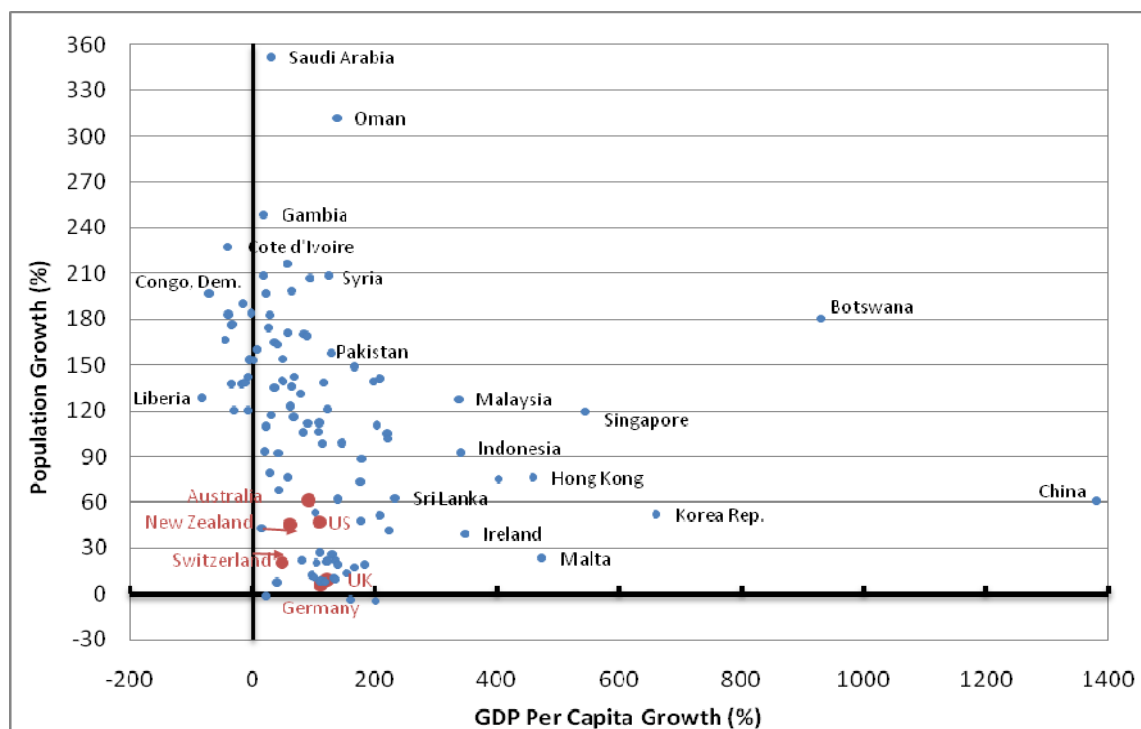
Figure 4.1 shows total population growth plotted against total per capita growth of 111 countries between 1970 and 2007. The chart shows little clear relationship between per capita GDP and population growth for the majority of countries. There are many instances of economically prosperous countries with slow or stable populations. Countries such as Germany and Switzerland have achieved economic growth with low population growth. None of the countries with very rapid population growth, mostly in the Middle East and Africa, were among the runaway economic success stories of these decades.

---

<sup>55</sup> Productivity Commission *Economic Impacts of Migration and Population Growth* final report, 2006; OECD *Economic Survey of Australia*, Chapter IV *The Economic Impact of Migration on Australia* 2003; Australian House of Representatives Standing Committee for Long-Term Strategies *Australia's Population 'Carrying Capacity': One Nation – Two Ecologies*, 1994; House of Lords Select Committee on Economic Affairs *The Economic Impact of Immigration*, Volume 1, 2008; Williams *Understanding the Economics of Immigration*, 1995.

<sup>56</sup> The OECD identifies investments in physical and human capital, sound macroeconomic policies and competitive labour and capital markets, but not population growth, as all contributing to disparities in economic growth among OECD countries. See OECD *Sources of Economic Growth in the OECD countries*, 2003.

**Figure 4.1: Population vs per capita GDP growth**



Source: World Bank Development Indicators

## High immigration is not needed to maintain growth in labour supply

Labour supply would still grow with lower immigration levels, even if labour participation rates by Australian residents do not increase.

It is true that the labour force grows at a slower rate if immigration is lower. For example, with 180,000 Net Overseas Migration the workforce is growing by 1.1 per cent a year by 2031 compared to 0.7 per cent with Net Overseas Migration reduced to 100,000. The workforce would be 14.3 million instead of 15.4 million by 2031.<sup>57</sup>

This is a moderate reduction that could be mitigated by increased participation by the resident population. Participation rates are still increasing which tends to support this assessment.<sup>58</sup>

## Excessive immigration is not necessarily a response to skills shortages

Excessive immigration is not the answer to skills shortages. Instead, excessive immigration may produce more acute shortages in labour.

Skilled migrants bring families (which may or may not include people with skills) and add as much to demand as they do to supply. That is, immigrants create more need for skilled labour than the skills that they supply. Data from the Department of Immigration and Citizenship shows that for every skilled worker in the 'skill stream', there were 1.6 other dependents, who may or may not have skills.<sup>59</sup>

<sup>57</sup> Birrell and Healy, 'Where smaller migration makes sense', AFR, 8 July 2010. These projections from the Centre for Population and Urban Research assume 2008 age/gender participation rates through to 2031.

<sup>58</sup> In October 2010, the ABS Labour force supply recorded the highest ever participation rate of 65.9% (seasonally adjusted).

<sup>59</sup> DIAC *Immigration Update July to December 2009*

<http://www.immi.gov.au/media/publications/statistics/immigration-update/update-dec09.pdf>

The British House of Lords probably says it best:

Because immigration expands the overall economy, it cannot be expected to be an effective policy tool for significantly reducing vacancies. Vacancies are, to a certain extent, a sign of a healthy labour market and economy. They cannot be a good reason for encouraging large-scale labour immigration.<sup>60</sup>

The solution to skills shortages is more training and education of the domestic population, not excessive population growth based on high rates of immigration.

As the Productivity Commission states “immigration might also dampen the labour market price signals that encourage investment in training by domestic businesses and labour (exacerbating longer-term shortages).”<sup>61</sup> Further, reported “labour shortages” are often just another way of saying employers are unwilling to provide the terms and conditions and training required to meet their needs.

#### **When skilled migration isn’t properly managed, Australian workers suffer: a case study**

In 2001, the points-based immigration system was changed to allow international students graduating from Australian university courses in designated shortage fields to obtain a permanent residence visa straight after graduating.

This policy change led to an increase of 270 per cent in the number of foreign students starting courses in IT. In turn, this led to an oversupply of graduates and increased unemployment amongst IT graduates. The increased competition for jobs occurred at the time of the dotcom crash and increased course fees and contributed to a fall of 50% between 2001 and 2006 in the number of Australian students starting university courses in IT, leaving the IT industry even more reliant on international students.

Source: Kinnaird, B. 2006 “Sorry, vacancy filled...” *The Times Higher Education Supplement*, 27 November 2006

#### *High levels of skilled migration do not necessarily reflect skills shortages*

The Australian government argues that employers are not required to undertake labour market testing<sup>62</sup> before hiring temporary skilled foreign workers on 457 visas. The attractiveness of 457 visas to employers also reflects the greater bargaining power employers have over temporary migrants through influencing their ability to stay in Australia on temporary work visas, and their access to permanent residence. Permanent residence is the ultimate objective of many ‘temporary’ workers, and around 80 per cent of employer-sponsored skilled permanent migrants were formerly 457 visa holders.

#### *Nonetheless, there are genuine skill shortages*

Skilled migration in both the temporary and permanent programs is predominantly for professional, associate professional and managerial occupations, not the trades. This is where

<sup>60</sup> House of Lords Select Committee on Economic Affairs, *The Economic Impact of Immigration*, 2008, page 59

<sup>61</sup> Productivity Commission *Economic Impacts of Migration and Population Growth* final report, 2006, page 39

<sup>62</sup> Labour market testing is the process by which a position is advertised in Australia to try and fill the vacancy with an appropriately skilled Australian citizen or Australian permanent resident. The paper, *Australia’s international trade commitments and the 457 visa* (<http://www.cfmeu.net.au/multiversions/3462/FileName/PublicWTOFTAPAPERFEB10.pdf>) reviews Australia’s obligations with regards to labour market testing.

the strong jobs growth has overwhelmingly been in the last decade and is projected to be over the next 10-20 years.<sup>63</sup>

Relying on immigration for these skills is neither efficient nor ethical. This panel wants to recognise the moral challenge to Australians in recruiting skilled workers from other countries, particularly those with lower living standards. This activity creates perverse inequities for countries that can ill afford the loss of workers. We can train more of the domestic population to meet these requirements, and should not be draining developing countries of their skilled people, trained at their expense.

*If we are to meet these skills shortages, Australia needs to train and employ more of its own people*

There is clear evidence that Australia is not training enough of its own people, especially in higher education courses where the vast bulk of skilled jobs growth and skilled migration is concentrated:

- the latest data show that the number of domestic students who completed undergraduate degrees onshore at Australian universities has barely risen from 106,162 completions in 2002 to 111,691 in 2008;<sup>64</sup>
- large numbers of people cannot obtain an apprenticeship,<sup>65</sup> and non-completion rates of up to 50% exist in some trades, due to poor apprentice wages and unsupportive learning and working environments;
- underemployment is high in Australia by world standards – according to a 2010 OECD study, Australia had the highest rate of involuntary part-time employment in the OECD even before the global financial downturn.<sup>66</sup>

An expansion in domestic training programs would give Australians greater opportunities, increase participation and workforce productivity.

## **High immigration is not needed to meet skills shortages in the resources sector**

The resource sector accounts for less than 2 per cent of total employment.<sup>67</sup> It cannot be considered a major driver of large-scale immigration. It is sometimes argued that immigration adds more labour to the cities, thus freeing up locals to move to other regions. But there is little evidence this is the case. Instead, there are persistent differences in unemployment rates across the states and “particularly so for Tasmania and South Australia, where the unemployment rate has generally been above the national unemployment rate over the past two decades.”<sup>68</sup>

---

<sup>63</sup> Birrell, B., Healy, E. and Smith, T. “Labor’s education and training strategy: building on false assumptions” *People and Place*, 16(1), 2008 and Birrell and Healy “The Mineral Boom and Immigration Policy: Skills Australia debunks the myths” *People and Place* 18(2), 2010

<sup>64</sup> Birrell and Healy “The Mineral Boom and Immigration Policy: Skills Australia debunks the myths” *People and Place* 18(2), 2010

<sup>65</sup> Up to 11,000 could be missing out each year. (Source: Group Training Australia report “The Positive Recruitment Cycle”, 2008,)

<sup>66</sup> OECD, Employment Outlook 2010 – How does Australia compare?, 2010, p. 2

[http://www.oecd.org/infobycountry/0,3380,en\\_2649\\_34747\\_1\\_70249\\_119663\\_1\\_1,00.html](http://www.oecd.org/infobycountry/0,3380,en_2649_34747_1_70249_119663_1_1,00.html)

<sup>67</sup> National Resources Sector Task Force Final report, *Resourcing the Future*, July 2010

<sup>68</sup> DeBelle and Vickery “Labour Market Adjustment: Evidence on Interstate Mobility” *Australian Economic Review*, 32(3), page 250.

It has been estimated that the resources sector 'could be 36,000 tradespersons short by 2015', and possibly 1,700 mining engineers and 3,000 geo-scientists as well.<sup>69</sup> But the same report points out that resources companies currently have a very poor training record – the sector is training apprentices at only half the rate of the Australian industry generally. The fact that the resources sector is a relatively heavy user of 457 visas – it accounts for less than 2 per cent of total employment but 8 per cent of all temporary 457 visas – also indicates its general support for immigration, rather than Australian-trained workers.

While some skilled tradespersons will be needed on temporary visas for the resources boom, the total numbers required will be much less than estimated if the sector lifted its apprentice training to at least match the Australian industry standard.

That would immediately double the Australian apprentices and trades completions in that sector.

## **Population growth may erode Australia's balance of trade**

As Australia's population grows, our demand for imports will grow just as fast. However, this increased demand for imports is not likely to be matched by increased exports. Australia's major exports are in the resources and agricultural sectors, neither of which is likely to grow as fast as the population. This is because labour supply is not a major constraint on those industry sectors; land and water availability are substantial constraints on agriculture, while international markets and capital are the major determinants of resource sector growth. Indeed, as our population grows, more of our fossil fuels and agricultural production will be required to meet domestic demand.

CSIRO modeling provides support for this observation. In "slow growth" and "medium growth" scenarios, Australia's balance of trade in physical resources was projected to grow, but in a rapid population growth scenario, our balance of trade begins to deteriorate from around 2025.<sup>70</sup>

## **Our ageing population is a boon, not a problem...**

Australia's ageing population is healthier and more productive than ever before. Indeed, an ageing population has been a goal of humanity for centuries. Ageing is the result of good health care and nutrition, a sound social welfare system, and healthy communities.

In describing the supposed challenges of an ageing population, we too often ignore the benefits. Older people who are out of the workforce are not unproductive: they provide child care, volunteer for community groups, and care for others. Further, as people are living longer, they are able to work longer. Health care costs need not be higher, since most health care costs are concentrated in the last years of people's lives, regardless of how long they live. And older people may prefer smaller and more efficient housing options and consuming fewer goods, thus living more sustainably.

Indeed, Switzerland, the Netherlands and Norway seem to be coping perfectly well with populations ageing sooner and more dramatically than Australia's.

*High population growth makes minimal difference to dependency ratios.*

In any case, the Productivity Commission in 2006 made clear that "increasing migration only partly offsets the effects of ageing."<sup>71</sup> While immigration has increased the proportion of people of early working age (15-34 years), because migrants also age, immigration can only ever have a temporary impact on the age structure. Figure 4.2 shows the ratio of people aged 15 to 64 (the

---

<sup>69</sup> National Resources Sector Task Force Final report, *Resourcing the Future*, July 2010, page 3.

<sup>70</sup> *Future Dilemmas: Options to 2050 for Australia's population, technology, resources and environment*, Report to the Department of Immigration and Multicultural and Indigenous Affairs, 2002, page 10.

<sup>71</sup> Productivity Commission *Economic Impacts of Migration and Population Growth* final report, 2006, page 276. 24

conventionally assumed working age) to others from 2006 to 2101 under four different population projections. Under all projections, the ratio falls from 2.1 in 2006 to well below 2 by 2100.

**Figure 4.2: Ratio of people aged 15 to 64 to others—2006 to 2101, four different projections**



Sources: Calculated from ABS *Population Projections Australia, 2006 to 2101* (cat no. 3222.0) 2008.

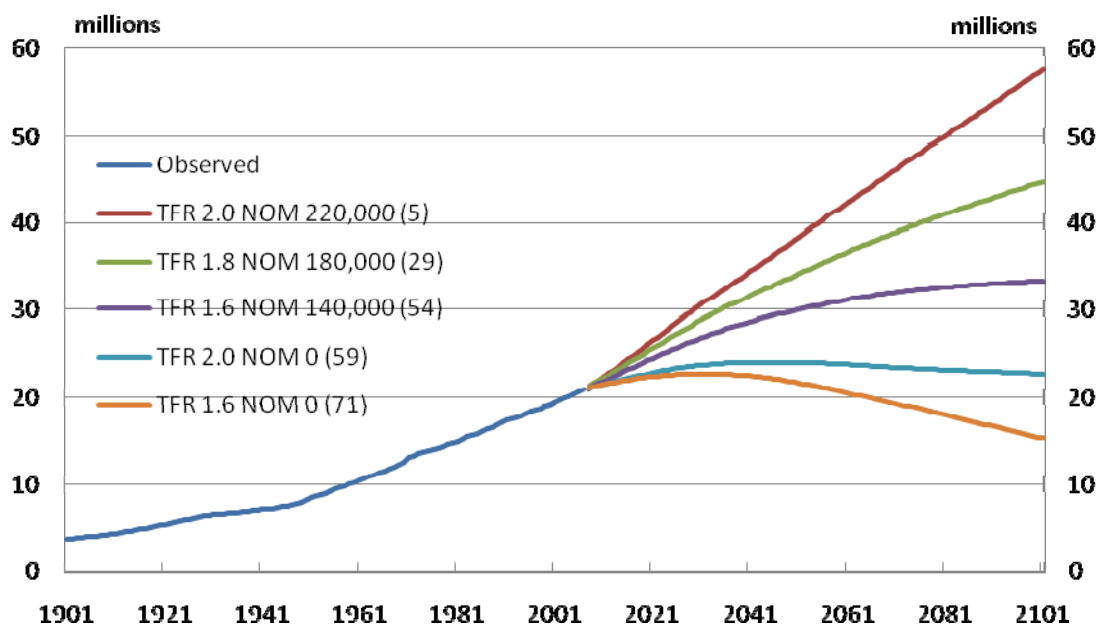
Note: The numbers in brackets in the key denote the number of the projection series. All series here assume medium life expectancy<sup>72</sup> and TFR constant at 1.8.

Australia's historical experience suggests that the feasible range in Net Overseas Migration (NOM) is much larger and more sensitive to policy decisions than the feasible range in the Total Fertility Rate (TFR).

Despite its minimal effect on measures of dependency based on chronological age, NOM has a substantial effect on the total numbers of future Australians as illustrated in figure 4.3. While slightly higher or lower levels of fertility and life expectancy make little difference to the overall numbers, migration is the significant driver of growth (see Attachment C for further details).

<sup>72</sup> Medium life expectancy means life expectancy at birth rising from the 2007 levels of 79.0 years for males and 83.7 for females to 85 for males and 88 for females by 2056 and remain constant thereafter. *Population Projections Australia, 2006 to 2101, Catalogue no. 3222.0*, ABS, 2008, p. 21.

**Figure 4.3: Total population, 1901 to 2006 and 2006 to 2101, five different projections**



Source: ABS *Population Projections Australia, 2006 to 2101* (cat no. 3222.0) 2008

Table 4.1 outlines some alternative measures of dependency. While all show rising dependency, the degree of deterioration is less pronounced than for the aged-to-working age ratio. For example, it is projected that for every adult without employment (excluding fully self-funded retirees) there will only be 1.8 people in employment, a fall from 2 currently.

**Table 4.1: Alternative measures of dependency**

	2010	2050	Percentage Change
<b>Aged to working-age ratio</b>	5.0	2.7	-46.0 per cent
<b>Employed people per age pensioner</b>	4.2	2.9	-31.0 per cent
<b>Full-time equivalent employed people per age pensioner</b>	3.6	2.5	-30.6 per cent
<b>Employed people per adult without employment</b>	1.7	1.4	-17.6 per cent
<b>Employed people per adult with employment (excluding fully self-funded retirees)</b>	2.0	1.8	-10.0 per cent

Note: The Intergenerational Report 2010 uses the aged-to-working age ratio to describe the increase in aged dependency over the next 40 years. It projected that the ratio of people aged over 65 years to people of working age would fall from 5 to 1 in 2010 to 2.7 to 1 in 2050, a fall of 46%.

Source: Intergenerational Report 2010 and Treasury projections

*In any case, standard measures of dependency focus too much on chronological age, not labour force contribution.*

Numerous government reports have drawn attention to the increased burden associated with an ageing population.<sup>73</sup> In focussing solely on chronological age, these reports underestimate the

<sup>73</sup> For example, the Intergenerational Report 2010 states that: 'In 1970, there were 7.5 people of working age to support every person aged 65 and over. By 2010 this has fallen to an estimated 5 people of working age for every 26

real contributions of older Australians. For example, it is estimated that up until the age of 75 years, net transfers of money and help flow from the old to the young.<sup>74</sup>

As people live longer, more of those aged 65 and over are fit and well. Recent research published in *Science* sets out an alternative to focusing on chronological age. The authors construct an adult disability dependency ratio (all adults aged 20 plus with disabilities, divided by all adults 20 plus without disabilities), and find very little change in dependency over the next forty years.<sup>75</sup>

---

person aged 65 and over. By 2050 the number is projected to decline to 2.7 people of working age to support every person aged 65 and over', pp. 5-6

<sup>74</sup> Healy "The benefits of an ageing population" *The Australia Institute* discussion paper 63, March 2004. She also reports that, in 2003, more than twice the number of children under 15 lived with their grandparents as lived with foster parents, pp. 20-21.

<sup>75</sup> See W. C. Sanderson and S. Scherbov, 'Remeasuring Aging', *Science*, vol. 329, no. 2010, p. 1287. (They focus on EU countries, plus Switzerland, Japan and the USA.)

## SECTION 5 – POLICY DIRECTIONS

**Key messages:** Excessive rates of population growth (and immigration in turn) should only be countenanced if demonstrable improvements in indicators of sustainability can be achieved.

The nation will have a conversation about whether and how population should be stabilised in the long term.

Australia will benefit from an independent Sustainability Commission to hold governments to account, identify policy options for increasing our sustainability and develop the national debate.

A more sustainable Australia will require increased investment in education, training and infrastructure.

### **Population growth should be dependent on improvements in sustainability indicators**

This report has advocated policy indicators for sustainability relating to increased urban density, reduced biodiversity loss, increased water efficiency and improved housing affordability. Without improvements on all of these indicators, excessive population growth should not be countenanced.

#### ***For a long term challenge, institutional reforms are key***

The demands required to ensure the population is sustainable touch most policy areas. To properly integrate sustainability into policy development it is important that the government's commitment to including sustainability impact statements in Cabinet deliberation is rigorously adhered to.

Even if we manage to establish best practice policy responses to today's problems, the future will bring challenges we can not foresee. Lasting enhancements to sustainability requires reform to governance structures.

An independent Sustainability Commission can keep the focus on performance. One has been recommended by the House of Representatives' Standing Committee on Environment and Heritage<sup>76</sup>. The former Sustainable Development Commission implemented by the United Kingdom can provide a model. In Australia, the Sustainability Commission could assess both Australia's performance on sustainability indicators as well as government commitment to delivering reforms. It could also inform policy across a range of areas including infrastructure, immigration, and the environment, potentially by providing advice to Government or parliament on the sustainability impacts of new policy.

The Commission could potentially be funded from existing resources, drawn from the Department of Sustainability, Environment, Water, Population and Communities, Productivity Commission or the Treasury.

Ongoing commitment to sustainability should be enshrined in a Sustainability Charter. This would communicate the Government's vision of a Sustainable Australia that places the environment and society on an equal footing with the economy, and set meaningful objectives and timeframes to deliver positive outcomes.

---

<sup>76</sup> Both the *Sustainable Cities* and *Sustainability for survival* reports by the House of Representatives Standing Committee on Environment and Heritage support the establishment of a Sustainability Commission.

### ***More equitable regional development is needed***

The panel does not consider that decentralisation or regional development offers an easy way out of problems associated with population growth. Nonetheless, these policies should continue to be actively pursued, including:

- Improved funding for local governments, in areas bearing the brunt of heavy population growth;
- Decentralising those functions of government that need not be located in capital cities;
- Mobility incentives including, improved financial assistance with relocation to find or take up a job thereby improving the match between skilled vacancies and workers in Australia and reducing the need for skilled migration;
- Removing barriers to industries that could develop in regional areas, and delivering infrastructure that allows regional areas to flourish; and
- Recognising that regional migration programs should support a whole region, shifting the migrant sponsorship in such programs from individual firms to regions themselves.

### ***Government needs more control over its migration program***

The Government is currently choosing to have less control over the immigration program. As immigration is the largest component of projected population, a national commitment to action on sustainability requires the Australian Government to exert more control over the size and composition of all immigration, particularly the temporary programs. The current approach of allowing the 'market' to determine the annual size and composition of the temporary migration program creates clear tensions with a sustainable population agenda. The recent record level of net overseas migration (320,000 in the year to March 2009)<sup>77</sup> was driven by migrants entering through uncapped temporary programs, in particular the student program.

Currently the 457 visa program is 'uncapped', meaning the government does not set annual limits or quotas for visa numbers in this program. The Australian government claims it is not able to place a cap on the 457 visa program, because of its international trade obligations<sup>78</sup>. This makes it even more important that the Australian government exerts better control of the program by imposing Labour Market Testing for the 457 visa.

Similarly, there also needs to be consideration of whether government can encourage international services industries, for example the international education sector, to shift to a different growth model that will be complementary and compatible to sustainable population growth. Incentives for these sectors could involve emphasis on two elements:

- Lower growth numbers of temporary residents in Australia, but a higher economic yield from those that do come; and
- More offshore provision of some services (eg education) and less provision on shore.

### ***Is a stable population the best long run policy?***

Growth cannot continue forever. At some point, the world population is expected to stabilise. Stabilising Australia's population may give Australia the best chance of leaving future Australians a prosperous nation that affords them a high quality of life, living in a healthy and resilient environment. Stabilising Australia's population should be a key part of the policy discussion on sustainability.

---

<sup>77</sup> <http://www.immi.gov.au/media/fact-sheets/15population.htm>

<sup>78</sup> Under the provisions of the 1995 World Trade Organisation General Agreement on Trade in Services (WTO GATS), specifically those relating to 'the movement of natural persons'.

## Policy instruments for sustainability

This report has made it clear that the panel envisages a future where people are living socially engaged and prosperous lives in a healthy environment – a future we describe as sustainable. There are many challenges to this aspiration. Many of Australia’s natural resources, notably water, are under pressure. Infrastructure – from the health system to roads – particularly in the major cities, is similarly under pressure from increasing demands. It is therefore reasonable for the Australian government and people to wish to think carefully through the serious questions before us all – how many people can live in Australia and with what compromises and what benefits; can we transition to a stable population without economic or social harm; and what planning and investment are required to secure Australia’s long term future?

If we accept that at current consumption rates, with current technology and infrastructure, an increase in numbers will damage our sustainability, what choices lie before Australia? The panel believes there are three essential policy domains, all of which need to be addressed:

- reduction in population growth rate: immigration and policies that encourage a higher birth rate to be subject to sustainability indicators
- managing current and future population impacts through urban and regional planning, and sustainability infrastructure (public transport, life-long education and training, non-climate dependent water sources, zero-carbon energy production, biodiversity conservation etc).
- policies and programs targeting reduction in consumption/unsustainable use of resources by the existing population

This report is not the place to elaborate in detail on these instruments– and has deliberately focused on establishing the case that population and sustainability are inextricably linked, and the costs and risks associated with rapid population growth. But further work must be done on a sound population policy.

We make four proposals to take the next steps towards such a population policy.

1. Australia needs rigorous indicators of sustainability. Population growth (and by implication immigration) should be linked with progress on these indicators. Indicators should include: biodiversity preservation; substantive reduction in urban encroachment; enhanced water efficiency and enhanced housing affordability and availability.
2. Australia will engage in a national dialogue about what aiming for stable population would mean and how it should be achieved.
3. Australia will benefit from a Sustainability Commission that produces sustainability indicators, reports to the Australian parliament annually on progress, and guides debate about sustainability and sustainable population levels. Sustainability Indicators should be used as a basis of policy formation generally, including through the use of Sustainability Impact Statements to inform government policies and investments.
4. The Government should consider reforms to the immigration program that allow it to exercise more control over immigration levels.

## AN EXPLANATION OF ONE INTERNATIONAL FRAMEWORK: A FRAMEWORK TO MEASURE THE PROGRESS OF SOCIETIES – DRAFT OECD WORKING PAPER

While the panel has suggested indicators of sustainability (see Table 1.1), there are several useful international frameworks that could help guide the development and debate of sustainability indicators for Australia. The panel considers the framework proposed in the draft OECD working paper, **A framework to measure the progress of societies** (2009), a useful reference.

The paper proposes a framework to measure progress, built upon a series of key domains and dimensions of societal progress. This framework considers that societies are based on two systems: the Human system and the Ecosystem that are linked through two different channels, 'Resource management' and 'Ecosystem services'. These channels represent the impacts (damaging and positive) these systems have on one another.

For measures of societal progress, more precise dimensions are defined within the framework. The paper proposes the following 'final goals' that are direct measures of human and environmental wellbeing and the 'intermediate goals' which are those elements that are key inputs into human and environmental well being.

<b>Final Goals</b>	
Ecosystem Conditions: Outcomes for the environment	<ul style="list-style-type: none"> <li>• land (geosphere)</li> <li>• freshwater, oceans and seas (hydrosphere)</li> <li>• biodiversity (biosphere)</li> <li>• air (atmosphere)</li> </ul>
Human Wellbeing: Outcomes for people	<ul style="list-style-type: none"> <li>• physical and mental health</li> <li>• knowledge and understanding</li> <li>• work</li> <li>• material wellbeing</li> <li>• freedom and self-determination</li> <li>• interpersonal relationships</li> </ul>

<b>Intermediate Goals</b>	
Economy	<ul style="list-style-type: none"> <li>• national income</li> <li>• national wealth</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• human rights</li> <li>• civic and political engagement</li> <li>• improved security and reduced violence</li> <li>• trust</li> <li>• access to services</li> </ul>
Culture	<ul style="list-style-type: none"> <li>• cultural heritage</li> <li>• arts and leisure</li> </ul>

Finally, the links between the two are considered as well as two key 'cross cutting perspectives'.

<b>Links between the two sets of goals</b>	
<i>Resource management, use, development and protection</i>	<ul style="list-style-type: none"> <li>• resource extraction and consumption</li> <li>• pollution</li> <li>• protection and conservation of economic and environmental assets</li> </ul>
<i>Ecosystem services</i>	<ul style="list-style-type: none"> <li>• resources and processes provided</li> <li>• impact of natural events</li> </ul>

**Cross-cutting perspectives**

- Intra-generational aspects: equity/inequality
- Inter-generational aspects: sustainability/vulnerability/resilience

The authors of the paper note that progress is multidimensional and different societies will inevitably use different indicators to measure their own progress. This framework, however, could be used as a common starting point for those wanting to establish new initiatives around the world.

# ECONOMIC IMPACTS OF IMMIGRATION: OVERVIEW OF PUBLIC REPORTS

## OVERALL CONCLUSIONS

- Migration has played a significant role in the development of Australia's society and economy. The OECD<sup>79</sup> stated that immigration is accepted as contributing to a higher quality of life in Australia by expanding the labour force, output and markets.
- A consistent theme of the Australian and international reports examined is that net immigration increases the size of the economy, but has only a neutral to mildly positive effect on per capita economic growth<sup>80</sup> (with the size of the impact dependent on the skill composition of the immigrants and the extent to which the income benefits accruing to skilled immigrants are distributed to the wider population).
  - Immigrants increase labour supply and the demand for labour.
  - High immigration cannot counter the effects of an ageing population in the long run, as immigrants too grow old and draw pensions.
  - The greater emphasis on skilled immigration in Australia has been successful in improving the economic return from immigration, with the Productivity Commission finding that temporary immigrants can help address short-term skill shortages.
- There are many benefits of immigration that are not captured by economic measures, and immigrants make a valuable contribution, through, for example, non-economic impacts such as cultural diversity.
- Readers should note that none of the reports summarised below include infrastructure costs in their analysis.

## AUSTRALIA TO 2050: FUTURE CHALLENGES THE 2010 INTERGENERATIONAL REPORT (IGR)

The IGR modelled the effect of lower population growth (0.8 per cent annually, 100,000 Net Overseas Migration (NOM)) on the annual average rate of growth in real GDP, the aged to working-age ratio and total workforce participation (compared to the base case of 1.2 per cent annual population growth).

It noted that the key factor influencing the results is the lower NOM assumption. Migrants tend to be younger than the resident population, therefore lower NOM implies lower growth in the size of the labour force. The IGR concluded that the lower NOM scenario would result in real GDP per person being lower by around 2 per cent in 2049-50.

---

<sup>79</sup> OECD, *Economic Survey of Australia*, Chapter IV, The Economic Impact of Migration on Australia, 2003

<sup>80</sup> Productivity Commission *Economic Impacts of Migration and Population Growth* final report, 2006, OECD *Economic Survey of Australia*, Chapter IV, The Economic Impact of Migration on Australia 2003, Australian House of Representatives Standing Committee for Long-Term Strategies, *Australia's Population 'Carrying Capacity': One Nation – Two Ecologies*, 1994

**Table 1: Low and high growth population scenarios**

	Base case 180,000 NOM, TFR 1.9	Low growth case 100,000 NOM, TFR 1.7
Average annual GDP growth rate (2009-10 to 2049-50)	2.7 per cent	2.3 per cent
Average annual GDP per person growth rate (2009-10 to 2049-50)	1.51 per cent	1.47 per cent
GDP per person in 2050	\$100,300	\$98,500
Aged to working-age ratio in 2050	2.7	2.3
Total labour force participation in 2050	60.6 per cent	58.2 per cent

Source: Australia to 2050: future challenges and Treasury calculations

### DEPARTMENT OF IMMIGRATION AND CITIZENSHIP<sup>81</sup>

Found that migrants contribute significantly to the labour market and the economy. They use the 3P's framework (population, participation and productivity) to show that recent migrants: are generally young and likely to be of working age; make a substantial contribution to the workforce, contributing to labour force growth and helping to address labour force shortages; and, earn around \$3,000 more than the Australian average and therefore add to Australia's productivity. Using the Fiscal Impact Model developed by Access Economics, they found that over 20 years, the cumulative fiscal benefit of the 2008-09 Migration and Humanitarian Program is about \$23 billion. This cumulative fiscal benefit estimate equals the income and indirect taxes paid by migrants net of the welfare payments and health costs attributable to migrants.

### THE UK HOUSE OF LORDS REPORT<sup>82</sup>

Found no evidence that net immigration generated significant economic benefits for the existing population, although many immigrants make a valuable contribution, through, for example, non-economic impacts such as cultural diversity and social cohesion. The report concluded that:

- net immigration increases the size of the economy – but this is not an index of prosperity;
- theory and available evidence indicate that the benefits of immigration in terms of income per head (a proxy for prosperity) of the resident population are small;
- net immigration increases labour demand, creating new vacancies – that is, immigration is unlikely to be an effective tool for reducing vacancies other than in the short term;
- the economic impacts of immigration depend on the skills of the immigrants;
- high immigration cannot counter the effects of an ageing population, as immigrants too grow old and draw pensions; and
- the overall fiscal impact of immigration is likely to be small, though this masks significant variation across different immigrant groups.

Some of the wider impacts of a rising population are hard to measure and highly regional. For example, the impact of increasing population density on the cost and speed of public infrastructure projects are poorly understood.

<sup>81</sup> Department of Immigration and Citizenship, 2010, *Population flows: Immigration aspects 2008-09*, Canberra

<sup>82</sup> House of Lords, Select Committee on Economic Affairs, *The Economic Impact of Immigration*, Volume 1, 2008

**The House of Lords Report's recommendations** included publishing periodic immigration reports, enhanced consideration of the objectives of immigration and how they relate to other objectives such as increasing the skills of the domestic workforce, better consideration of which immigrations should be temporary immigrants, and that there be an indicative target range for net immigration.

### PRODUCTIVITY COMMISSION (PC)<sup>83</sup>

*Income effects:* The PC modelled the effect of a 50 per cent increase in the level of skilled migration on productivity and living standards to find that by 2024-25 (*compared with the base case*):

- Population is higher by 3.3 per cent; GDP is 4.6 per cent higher; national income rises by around 4 per cent; income per capita is higher by about 0.71 per cent or \$383; and average hours worked per capita are higher by 1.2 per cent.
- The gains from migration mostly accrue to the migrants and to capital owners (domestic and foreign). The incomes of incumbent workers grow more slowly than would otherwise be the case.
  - The economic effects arise from: demographic and labour market differences between migrants and the Australian-born population; and, from migration-induced changes to population growth.

*Skill Shortages:* In a competitive economy there will always be incidences of skills shortages. The labour market will adjust over time to address these imbalances through changes in the price and/or quantity of labour, but sometimes the adjustment process can be slow. The impact on skills shortages of immigration is complex as domestic labour market responses depend on the returns to skill formation (which may be affected by migration).

- Increases in the number of temporary immigrants can help address short-term skills shortages.
- The increased focus on skills has led to improved labour market outcomes from immigration, with English proficiency a key factor for both ease of settlement and labour market success.

*Fiscal impact:* Skilled migrants are less reliant on transfer payments, and are more likely to earn higher incomes and pay more taxes.

- The Australian House of Representatives report (1994) refers to academic research that suggests that in the longer term, immigration generates government revenues which more than repay government expenditure on establishing migrants.

---

<sup>83</sup> Productivity Commission, *Economic Impacts of Migration and Population Growth*, Final Report, 2006

## ECONTECH<sup>84</sup>

Based on a similar scenario to that modelled by the PC (ie same size of NOM assumptions), Econtech(2006) found that consumption per capita after 20 years would be 1.1 per cent higher (compared to the PC's 0.7 per cent increase in per capita income). This difference in outcome reflected, amongst other things, different assumptions about substitution between occupations and hence higher growth in labour productivity in the Econtech report.

In its earlier analysis, Econtech (2001) found that a focus on skilled migration increased the consumption per capita gains from immigration.

## OECD<sup>85</sup>

The OECD concluded that the greater emphasis on skilled immigration in Australia has been successful in improving the economic return from immigration.

- The higher average level of education of immigrants; relative youth; high participation and declining unemployment rates; and, rising average incomes for each successive intake, relative to the existing population<sup>86</sup>, all contributed to this finding.
- The OECD considers that it is therefore likely that spin-offs for the existing population have also been increasing, but that it is difficult to quantify these gains. It concluded that most immigrants create net fiscal benefits, especially those who enter through the points-based and business skills routes.

---

<sup>84</sup> Econtech, *The Economic Impact of the 2000-01 Migration Program Changes*, prepared for the Department of Immigration and Multicultural Affairs and Econtech, 2001 and *The Economic Impact of Migration: A Comparison of Two Approaches*, prepared for the Department of Immigration and Multicultural Affairs, 2006

<sup>85</sup> OECD, *Economic Survey of Australia*, Chapter IV, The Economic Impact of Migration on Australia, 2003

<sup>86</sup> The Australian House of Representatives Standing Committee for Long-Term Strategies, *Australia's Population 'Carrying Capacity': One Nation – Two Ecologies*, 1994) found that the skills levels of past immigrants exceed that of the general population.

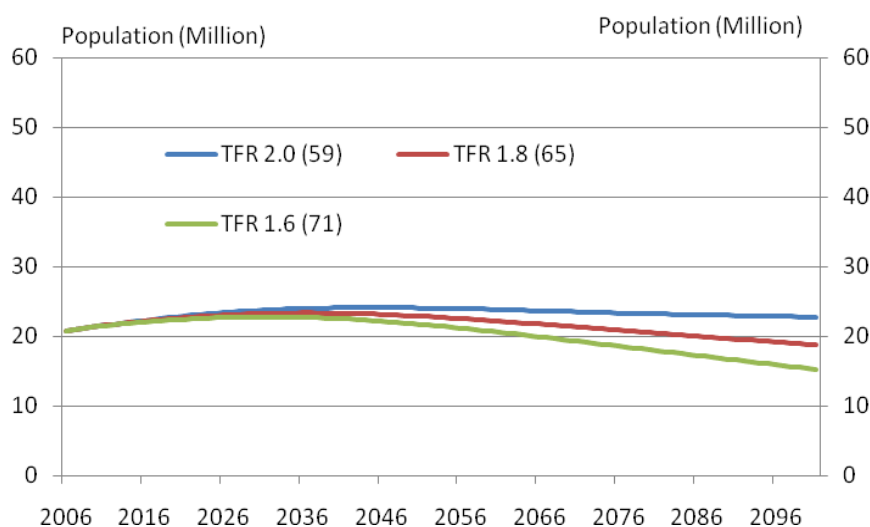
## POPULATION GROWTH, DEMOGRAPHIC AGEING AND PROJECTION ASSUMPTIONS

### Population growth

Australia's population has grown rapidly since Federation, from 3,774,000 in June 1901 to 21,955,300 in June 2009, giving an annual growth rate of 1.2 per cent (or a doubling time of around 58 years). However, from June 2005 to June 2009 this growth rate increased to 1.75 per cent (giving a doubling time of 40 years), and an average annual increase of 366,000 people. This means that Australia was adding rather more than the current population of Canberra each year.

Whether this rate of growth continues depends on three variables, annual net overseas migration (NOM), the total fertility rate (TFR) and changes to life expectancy. The following graphs taken from the most recent projections published by the Australian Bureau of Statistics (ABS) show the relative contribution of each of these variables. Figure 1 holds NOM constant at zero and life expectancy constant at the ABS medium projection,<sup>87</sup> while varying the level of fertility.

**Figure 1: Projections from 2006 to 2101, different levels of fertility, holding NOM constant at zero and life expectancy constant at medium**



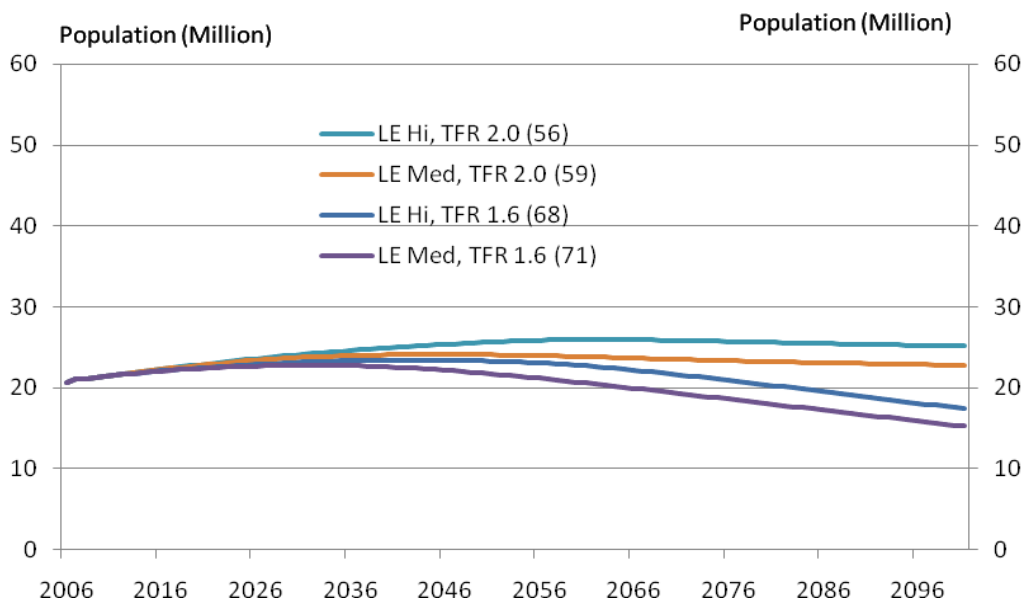
Source: Projections published online with *Population Projections, Australia, 2006 to 2101*, Catalogue no. 3222.0, ABS, 2008. The figures in brackets in the key stand for the number of the projection series.

Figure 2 shows two different levels for the TFR (2.0 and 1.6) and two different levels of life expectancy, the medium and high assumptions.<sup>88</sup> It shows that the fertility assumptions have a larger impact on total population than those of life expectancy.

<sup>87</sup> Medium life expectancy means life expectancy at birth rising from the 2007 levels of 79.0 years for males and 83.7 for females to 85 for males and 88 for females by 2056 and remain constant thereafter. *Population Projections, Australia, 2006 to 2101, Catalogue no. 3222.0*, ABS, 2008, p. 21.

<sup>88</sup> High life expectancy means life expectancy will reach 93.9 years for males and 96.1 years for females by 2056 and remain constant thereafter. *Population Projections, 2008, op. cit.*, p. 21.

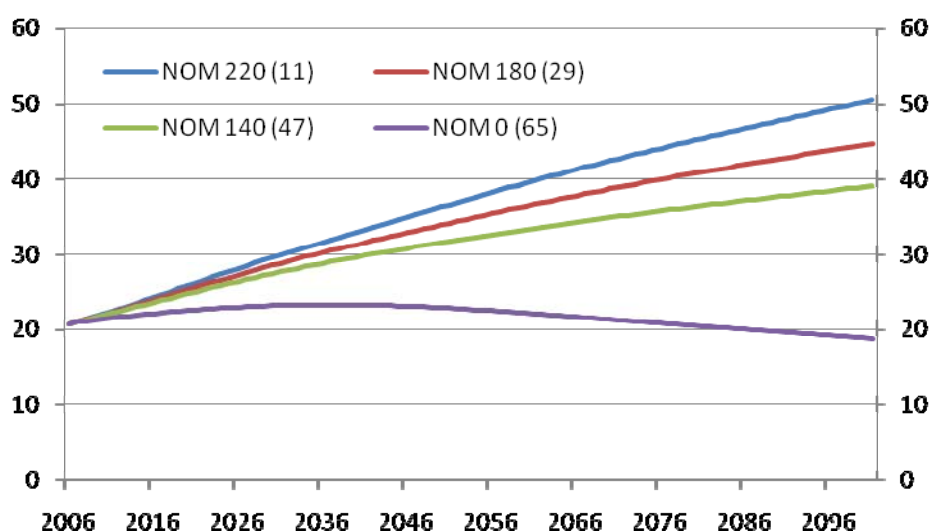
**Figure 2: Projections from 2006 to 2101, two levels of fertility, NOM constant at zero and life expectancy varying from medium to high**



Source: ABS, 2008 projections.

Figure 3 analyses the effects of different levels of net migration, holding the TFR constant at 1.8. The difference between the highest level of NOM in 2051 and the lowest is 13.8 million, with a total population ranging from 36.6 million (NOM 220,000) to 22.9 million (NOM zero).

**Figure 3: Projections from 2006 to 2101, varying levels of NOM, TFR constant at 1.8**



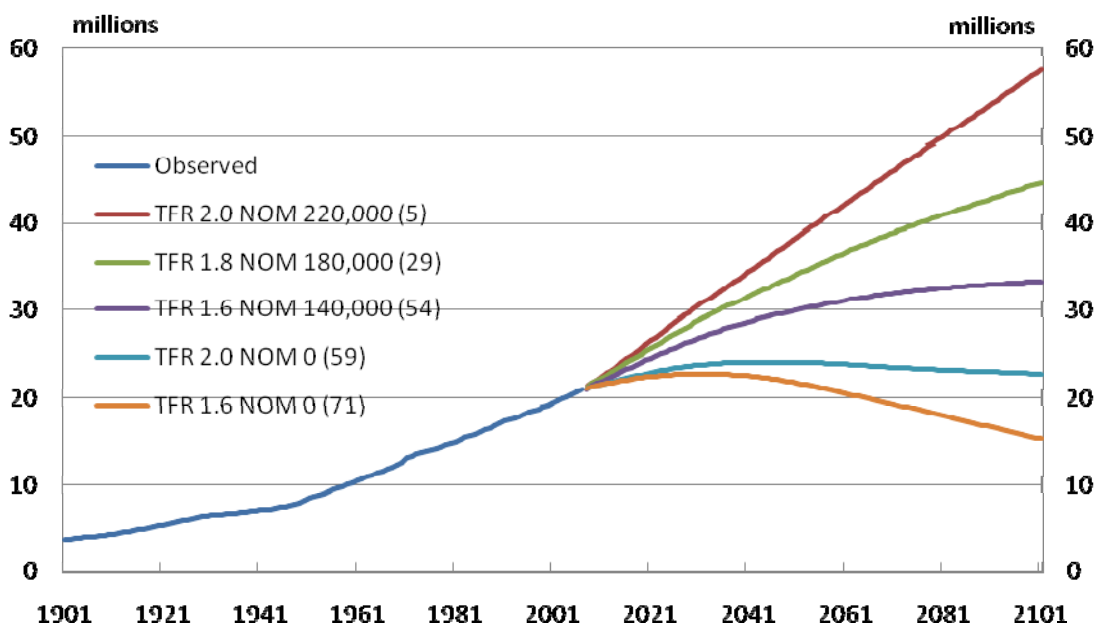
Source: ABS, 2008 projections.

Australia's historical experience suggests that the feasible range in NOM is much larger and more sensitive to policy decisions than the feasible range in TFR. As a result, a comparison of these three graphs shows that the level of NOM has a much greater effect on the total size of the population than do either the TFR or differences in life expectancy.

Figure 4 takes five different projections from the series. They all use the medium life expectancy assumption but show different combinations of the TFR and NOM, ranging from the highest projection published to the lowest. It also sets them in the context of the growth Australia has experienced since 1901. The highest projection shown (series 5) is close to Australia's current settings. It has a TFR only slightly higher than the current level (which has averaged 1.874 over the four calendar years from 2005 to 2008) and a NOM that is slightly lower (the average for

the four calendar years from 2006 to 2009 was 251,300). The second highest (series 29) is close the projection used by Treasury in the Third Intergenerational Report.

**Figure 4: Total population, 1901 to 2006 and 2006 to 2101, five different projections**

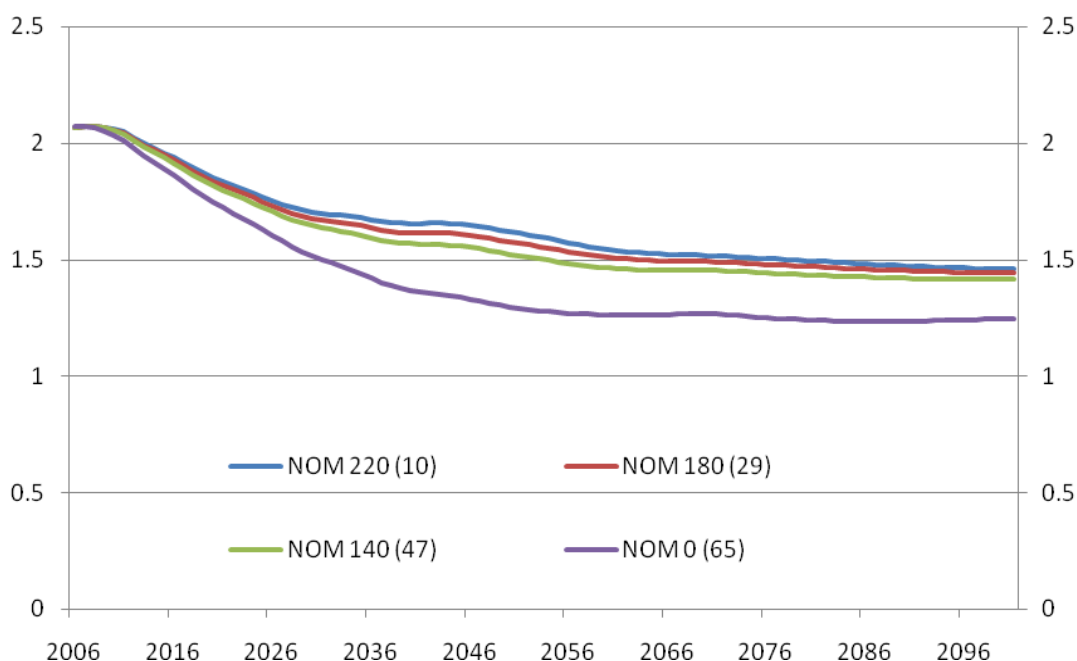


Source: ABS, 2008 projections.

## Demographic ageing

Figure 5 shows that high levels of migration make limited difference to projected changes in social dependency as measured by the ratio of people aged 15-64 to all other age groups. Different levels of migration cannot stop the ageing process; under all projections the ratio falls from 2.1 in 2006 to well below 1.5 by 2100. At 2100, the fall in the ratio under the high NOM case (2.1 to 1.45) is of similar size as in the zero NOM case (2.1 to 1.24); however, the total population size is 2.7 times larger in the high NOM scenario.

**Figure 5: Ratio of people aged 15 to 64 to others—2006 to 2101 under different NOM projections**



Source: ABS, 2008 projections (Life expectancy medium; TFR constant at 1.8)

As high migration makes very little difference to dependency it is not surprising to that it has a limited effect on the median age of the population. Table 1 uses some of the scenarios from Figure 4 to quantify that effect.

**Table 1: Cost in numbers of extra people required to reduce the median age in 2101 by one year relative to projections series 71**

	Median age in 2101	Population in 2101	Years younger than series 71	No. of extra people compared to series 71	Extra people needed to reduce the median age by one year relative to series 71
TFR 1.6 NOM 0 (71)	51.7	15,254,121	—	—	—
TFR 2.0 NOM 0 (59)	44.7	22,736,097	7.0	7,481,976	1,067,739
TFR 1.6 NOM 140,000 (54)	46.7	33,396,039	5.1	18,141,918	3,580,594

Source: Calculated from ABS, 2008 projections

Table 1 shows that while, for example, series 54 produces a median age in 2101 that is 5.1 years younger than series 71 it does so at a cost of 3.6 million extra people for every year shaved off that median. In contrast, a modest increase in the TFR from 1.6 (series 71) to 2.0 (series 59) produces a population in 2101 that is seven years younger, and at a cost of only 1.1 million extra people for each additional year of youthfulness. High immigration can reduce the median age, but at great cost; slightly higher fertility produces a similar or greater reduction more efficiently.

## Projection assumptions

The outcomes of population projections depend on the assumptions demographers use in preparing them. For example only eight years earlier the ABS published a projection series in which the assumptions for NOM were 70,000, 90,000 and 110,000 per year<sup>89</sup>. Thus their highest migration assumption then was considerably lower than the lowest assumption used in the 2008 series (140,000)<sup>90</sup>. These led to projections for 2051 ranging from 24.1 million to 28.2 million people (no full series with nil net migration was published). In the 2008 series, the 2051 projections with positive net migration ranged from 30.0 million to 38.3 million. While both fertility and life expectancy were assumed to be higher, the most significant difference between the two ranges was the higher migration assumptions.

## Conclusion

High life expectancy is a sign of success; no one wants to reduce it, even if this were legally and ethically possible. And where fertility does respond to policy changes these responses are marginal. It is fortunate, then, that neither of these variables, within ranges feasible in Australian society, is particularly significant in shaping population size and growth. Here the key variable is net migration, a variable that is strongly sensitive to policy decisions made by the Australian government.

---

<sup>89</sup> *Projections of the Populations of Australia, States and Territories: 1999-2101*, Catalogue no. 3222.0, ABS, 2000

<sup>90</sup> In 2000, the TFR assumptions were 1.75 and 1.6, and one life expectancy assumption was used (rising to 83.3 for males and 86.6 for females).