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## CRISIS? WHAT CRISIS? MYTH AND REALITY IN THE DEBATE ON AN AGEING AUSTRALIA

■ **James Doughney and J. E. King**

*The Commonwealth Government's Intergenerational Report 2002-03 claims that Australia's ageing population poses a serious challenge for responsible fiscal policy in the longer term, a claim repeated in subsequent official pronouncements. We reject this claim, pointing to its rhetorical nature and to the lack of systematic sensitivity analysis of many of the critical variables. We conclude that the ageing 'crisis' is largely mythical.*

### INTRODUCTION

The definitive document setting out the official position on the 'ageing crisis' is the *Intergenerational Report 2002-03*,<sup>1</sup> circulated by the Commonwealth Treasury as 2002-03 Budget Paper No. 5. We shall draw heavily on it in this article, supplemented by a May 2004 address by the Secretary to the Treasury, Ken Henry, to a meeting of Australian Business Economists.<sup>2</sup> In March 2005 the Productivity Commission weighed in with a 403-page report plus appendices.<sup>3</sup> Soon after, the 2005-06 Commonwealth Budget<sup>4</sup> reiterated the ageing crisis theme, picked up on the Productivity Commission's report, and inaugurated the 'Future Fund'.

The *Intergenerational Report* claims that: 'a steadily ageing population is likely to continue to place significant pressure on Commonwealth Government finances ... The projections in this report suggest that, if policies are not adjusted, the current generation of taxpayers is likely to impose a higher tax burden on the next generation', amounting to five per cent of GDP by 2041-2. The *Report* emphasises that 'Governments will need to exercise sound policy management to minimise the tax burden transferred to the next generation, particularly if Australia is to keep its position as a lower taxing and spending country'.<sup>5</sup>

Evidence to support these claims is presented in the form of population

projections,<sup>6</sup> which reveal a rapid increase in the 65-84 and 85 plus age-groups between 2002 and 2042, while the 15-64 age-group will grow only slowly and the 0-14 age-group will decline slightly in numbers. This will increase the 'children and aged to working-age ratio', as shown in Chart 14 of the *Report*.<sup>7</sup> 'With projected lower growth in the labour force and falling participation rates, annual employment growth could be significantly lower over coming decades',<sup>8</sup> reducing the growth in real GDP per person from an assumed 2.2 per cent per annum in the 2000s to 1.4 per cent or 1.5 per cent in the 2010s, 2020s and 2030s.<sup>9</sup> At the same time as output per person is decelerating, spending per person will rise more rapidly: 'Over half of Commonwealth Government expenditure is directed to health and aged care, the social safety net (payments to individuals and education). All of this spending is sensitive to demographic changes'.<sup>10</sup> Hence the looming fiscal crisis.

Not surprisingly, the *Intergenerational Report* has been cited in support of a number of contentious policy changes. These include: active discouragement of early retirement, which will almost inevitably culminate (as it already has in several European countries) in an increase in the age at which people become eligible for a state Age Pension; continued, and probably even tighter,

means- and asset-testing of the pension itself; an increase in the ‘preservation’ age at which superannuants may gain access to their superannuation funds; large and extremely inefficient subsidies to private health insurance as a means of reducing public expenditure on health; dismantling labour market protections for employees through the 2006 WorkChoices legislation, which (it is claimed) will lead to accelerated productivity growth and higher employment rates; and the extension of the ‘mutual obligation’ principle to many of those in receipt of single parent and disability support payments, again justified in terms of the over-riding need to increase the labour-force participation rate.

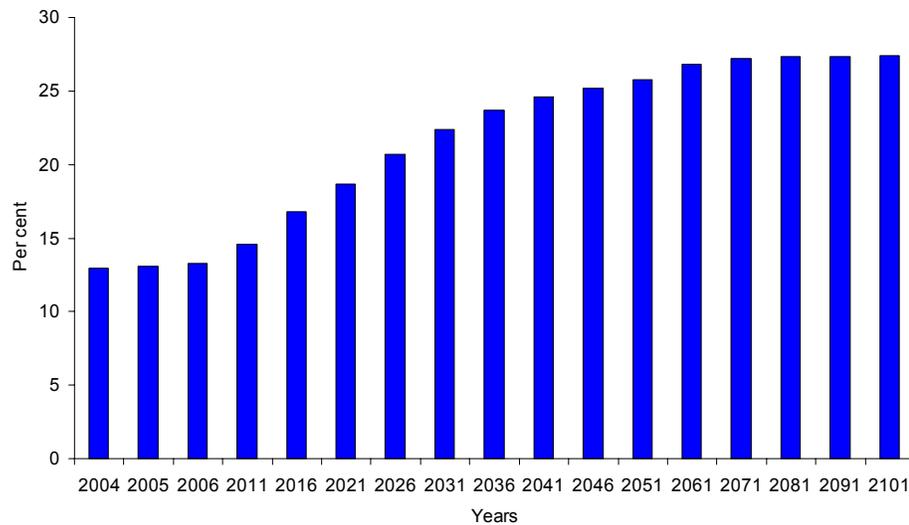
In another paper we dissect the rhetoric that has been used in defence of these proposals, with particular reference to the concepts of ‘fiscal sustainability’, ‘inter-generational equity’ and the ‘non-accelerating inflation rate of unemployment’, or NAIRU.<sup>11</sup> In section 2 of the

present paper we locate the kernel of truth inside the myth, and in section 3 we conduct some detailed sensitivity analysis to establish how large the problem really is. In the conclusion (section 4) we raise some important issues related to ageing that do not feature prominently in the official discourse.

## 2. A KERNEL OF TRUTH

Although the rhetoric of the ageing ‘crisis’ is profoundly misleading, it would be a mistake to go to the other extreme and deny the existence of the real problems that are connected to demographic change. The population is ageing (see Figure 1); this will (*ceteris paribus*) reduce the working population as a proportion of the total population; and this in turn can be expected (again, *ceteris paribus*) to constrain the growth of output per person and to increase both government expenditure and taxation per person. Some very simple algebra can be used to summarise these propositions:

**Figure 1: Australia’s projected population aged 65 and older 2004 to 2101, per cent**



Source: *Population Projections, Australia*, Cat. No. 3222.0, ABS, 2005, (series B)

$$(1) Y/P = (Y/L) (L/WP) (WP/P)$$

where Y is output, L is employment, P is total population and WP is the population of working age. Thus Y/P is output per head of the population, a (very rough) proxy for living standards; (Y/L) is labour productivity; (L/WP) is the average participation rate for those of working age; and (WP/P) is the proportion of the total population that is of working age.

Equation (1) can be made more complicated by allowing for changes in average hours of work and for unemployment but, in its simple form, it does reveal the most important variables. If (WP/P) falls, (Y/P) will be lower than it would otherwise have been unless the effects of ageing are offset by increases in (Y/L) or (L/WP).

The fiscal implications can also be summarised:

$$(2) G/P = (G/Y) (Y/P)$$

where (G/P) is government spending per person, (G/Y) is the ratio of government spending to GDP, and (Y/P) is — as before — output per head of the total population. If we follow the *Intergenerational Report* and impose a balanced budget requirement, G can be replaced by T, and we can write (rather trivially):

$$(3) T/P = (T/Y) (Y/P)$$

where (T/P) is the average tax paid per person, and (T/Y) is the ratio of taxation to GDP.

This equation could also be complicated by allowing for the fact that, on average, employed persons pay more tax than non-employed persons (including retirees). From equation (2) it is evident that, if (G/Y) is increasing, or (Y/P) is falling, or both, then (G/P) must rise; from equation (3), (T/P) must rise at the same rate. Conversely, if (G/Y) is held constant by assumption, then (G/P) cannot be

allowed to increase more rapidly than (Y/P), with serious implications for Commonwealth spending on the elderly.

All of these variables are indeed variable, unless constancy is imposed upon them by assumption. Indeed, they are all *policy variables*. In equation (1), (Y/L) will be affected by changes in the level of public investment, for example in education or infrastructure, while (L/WP) depends *inter alia* on both open and hidden unemployment, reflecting the proportion of those willing to work who are unable to find any. Macroeconomic policy will be relevant here. And (WP/P) is heavily dependent on public policy with respect to the average age of retirement, which can be influenced by the taxation regime, public aged pension provisions and labour market regulation, to name only three of the most important factors. In the following section we perform a much more systematic sensitivity analysis than can be found in the *Intergenerational Report* and demonstrate that, with quite small changes in some of the relevant variables, the ageing ‘crisis’ disappears.

### 3. HOW TO MAKE THE ‘CRISIS’ DISAPPEAR

Although the *Intergenerational Report* spends considerable space discussing the sensitivity of its assumptions to change,<sup>12</sup> its actual ‘what if’ accounting is forbiddingly opaque. Tables 14 and 15 of the *Report*<sup>13</sup> offer some clues, but its authors do not explicitly model the impacts of alternative scenarios. We are not alone in experiencing this frustration. As McDonald and Dowrick noted in an ANU technical report in 2002:

The impact of alternative demographic and economic scenarios is summarised in Table 15 of the report, with a downside of an additional two-and-a-quarter percentage points and an upside of a

reduction in demographic spending of just under one-and-a-half percentage points, relative to the baseline scenario. (These estimates come from summing across the 'Total' rows in Table 15.) The results of the report derive from the application of a complex model of future demography, future people-related federal outlays and future labour force trends, including labour productivity, labour force participation rates and unemployment. Clearly, over a 40-year period, there are substantial possibilities for variation in these trends. In general, we conclude that the report is conservative in its assumptions about possible variations as only relatively small variations from recent trends are tested. Future trends in all of the parameters of the model are based upon some form of extrapolation of past time trends. This means that what is presented is a projection of what will happen if demographic, health and economic trends and government policies remain much the same as they have been in the past. This approach is taken despite the fact that the report itself calls for policy initiatives such as encouraging mature-age employment that would lead to changes in the assumed parameters. It is our view that there is a range of possible policy initiatives that could significantly alter the assumptions of the model.<sup>14</sup>

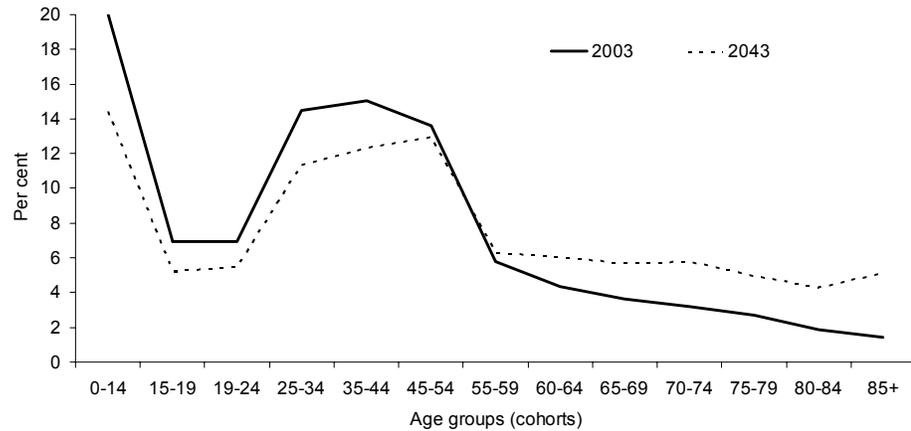
In particular, McDonald and Dowrick maintain that the *Report* understates the effects of falling unemployment, 'greatly underestimates the potential for future increases in labour force participation rates' and 'presents an unduly certain picture' of future health and aged-care costs. Even if the *Report's* conservative assumptions were borne out, real after-tax incomes would still grow by 85 per cent by 2042.<sup>15</sup>

In contrast to the *Report*, Ken Henry<sup>16</sup> does offer some projected ratios that allow us to undertake a sensitivity

analysis. He suggests the following: growth in GDP per capita (Y/P) of 80 per cent to 2042 and public spending per capita (G/P) of 120 per cent, of which only 50 per cent will be due to ageing (the remaining 70 per cent being due to non-demographic health care costs). These translate into annual percentage growth rates of about 1.5 and 2.042. The latter is given to three decimal places because we will use it in our sensitivity analysis (the former being a derived result). Henry also assumes that the percentage of the population aged 15 and over will increase at about 0.125 per cent per annum and that the labour-force participation rate will fall by about 0.375 per cent per annum (Chart 10). Henry emphasises the proportion of the population of 'prime working age' (our WP/P), claiming that 'it is the collapse in the proportion of the population of working age that is going to drive our GDP per capita prospects'. Together with the projected increase in government spending per capita (G/P) this will 'drive the five percentage point increase in prospective public spending to GDP'.<sup>17</sup>

While this emphasis is not incorrect it can be somewhat misleading, and not merely because Henry's data implicitly limit the 'prime working age' to the years 15-60 and not 15-64. Of course, the projected fall in the proportion of the population in the 15-64 age group from about 67.3 per cent to 59.8 per cent<sup>18</sup> is significant (see Figure 2). However, because it is a relatively stable factor, it is not so significant for sensitivity analysis. The participation rate is much more variable and, therefore, much more significant. This, too, is what makes our quibble over the prime working age definition reasonable. Labour force participation (retention) in the 60-64 cohort has been increasing and should

**Figure 2: Australia's population distribution by age cohort 2003 to 2043, per cent**



Source: *Labour Force Australia*, Cat. no. 6201.0, ABS, 2004; Reserve Bank of Australia, *Australian Economic Statistics*, (see note to Table 1).

continue to increase in the future, as should that for those 65 and older. Recall also that Henry acknowledged that, of the 120 per cent increase in government spending per capita, 70 per cent had non-demographic causes. In other words 'ageing' is being asked to bear the blame for increases in government spending per capita (G/P) caused by general increases in estimated future health costs and, presumably, benefits of health care for the total population.<sup>19</sup> This is truly pushing the envelope.

At any rate, let Table 1 represent our starting point, one that reasonably closely models the *Intergenerational Report's* assumptions and projections (see data for Australian Bureau of Statistics [ABS] population projection series B). In Table 1, labour productivity growth is at 1.75 per cent per annum, government spending per capita at 2.042 per cent per annum and the cohort participation rates are at about their 2003-04 levels. This assumes no increase in female participation and no

older worker retention to 2042. The average participation rate will fall from 62.9 per cent to 53.9 per cent on this assumption (a fall of about 0.4 per cent per annum), because the proportion of the population aged 65 and older will rise, even though the participation rates for each cohort between ages 15-64 have not changed. Note that series B pre-tax GDP per capita will grow by 77.3 per cent (that is, at about 1.5 per cent per annum), while after-tax GDP per capita will grow by 87.0 per cent (about 1.6 per cent per annum).<sup>20</sup> Note also that we have used here the most recent population projections<sup>21</sup> and have presented all three projections proposed by the ABS. Series B is the mid-range projection.

To test the sensitivity of outcomes to assumptions the variables we will alter are the participation rate (L/WP),<sup>22</sup> growth in output per member of the labour force (Y/L) and government spending per capita (G/P). Table 2 proposes modest 'improvements' in each

**Table 1: Model projections to 2042 according to *Intergenerational Report* (approx.)**

Assumptions selected for model		Y/L growth p.a.	1.75%	G/P growth p.a.	2.04%
Assume low participation rate to 2051 (approx. current cohort participation rates)					
Description	Symbol	Actual to or at	ABS Series A	ABS Series B	ABS Series C
		Jun-03	2042	2042	2042
Total GDP or income \$m	Y	738,812	1,979,747	<b>1,797,807</b>	1,615,033
Total labour force	L	10,063,327	13,708,029	<b>12,448,254</b>	11,182,700
Total population	P	19,881,469	30,918,639	<b>27,283,018</b>	24,808,223
'Productivity' \$	Y/L	73,416	144,422	<b>144,422</b>	144,422
Per capita GDP \$	Y/P	37,161	64,031	<b>65,895</b>	65,101
'Dependency' ratio (1)	(P-L)/L	0.98	1.26	<b>1.19</b>	1.22
'Dependency' ratio (2)	P/L	1.98	2.26	<b>2.19</b>	2.22
Per capita government spending \$	G/P	7,734	17,013	<b>17,013</b>	17,013
Government to GDP %	G/Y	20.8	26.6	<b>25.8</b>	26.1
Average annual labour earnings \$	W/L	37,869	74,495	<b>74,495</b>	74,495
Government spending to labour \$	G/L	15,279	38,373	<b>37,287</b>	37,742
Change in G/L due to D dependency P/L \$	Change G/L	0	4,762	<b>3,676</b>	4,131
W/L with change in G/L fully allocated \$	W/L — change G/L	37,869	69,734	<b>70,819</b>	70,364

Sources: ABS: *Labour Force Australia*, Cat. No. 6201.0, 2004; *Australian Demographic Statistics*, Cat. No. 3101.0, 2004; *Population Projections, Australia*, Cat. No. 3222.0, 2005; and *Australian Economic Statistics, 1949—1950 to 1996—1997*, Occasional paper No. 8, Reserve Bank of Australia, Sydney, 2004 [online] <[http://www.rba.gov.au/Statistics/op8\\_index.html](http://www.rba.gov.au/Statistics/op8_index.html)>. All 2003 constant (chain value) dollars.

(1.85 per cent per annum for Y/L; 1.9 per cent per annum for G/P and moderate increases in female participation in working-age cohorts).

Table 3 proposes larger, though far from unreasonable, 'improvements' (2.0 per cent per annum for Y/L; 1.8 per cent per annum for G/P and increases in female participation rates in working-age cohorts that approach, but do not reach, those of men, and some increases in older worker retention. Note that, as of 2005, output per member of the labour force (Y/L) has increased by more than 2.2 per cent per annum for the past decade, and that there is an increase in government spending per capita corresponding to the increase in the proportion of the population aged 65 and older of 1.8 per cent per annum. It is more than

reasonable, too, to anticipate higher working-age female participation and higher rates of retention of older workers in the labour force. Again our assumptions are modest, with the average participation rate falling from 62.9 to 60.2 in Table 3 and to 58.1 in Table 2.

We will now summarise these results and emphasise their reasonableness. Table 2 has output per member of the labour force (our proxy for labour productivity) grow each year by 0.1 of 1 per cent more than it does in the '*Intergenerational Report* model' of Table 1. Table 3 has it grow at 0.25 of 1 per cent more each year. Similarly we have government spending per capita rise at 0.142 of 1 per cent and 0.242 of 1 per cent less per annum in Tables 2 and 3 than is the case under *Intergenerational*

**Table 2: Model projections to 2042 with modest growth projections**

Assumptions selected for model		Y/L growth p.a.	1.85%	G/P growth p.a.	1.90%
Assume moderate participation rate to 2051 (moderate increase in female cohort participation rates)					
Description	Symbol	Actual to or at 1/06/2003	ABS Series A	ABS Series B	ABS Series C
			2042	2042	2042
Total GDP or income \$m	Y	738,812	2,219,472	<b>2,012,689</b>	1,813,221
Total labour force	L	10,063,327	14,790,301	<b>13,412,324</b>	12,083,096
Total population	P	19,881,469	30,918,639	<b>27,283,018</b>	24,808,223
'Productivity' \$	Y/L	73,416	150,063	<b>150,063</b>	150,063
Per capita GDP \$	Y/P	37,161	71,784	<b>73,771</b>	73,090
'Dependency' ratio (1)	(P-L)/L	0.98	1.09	<b>1.03</b>	1.05
'Dependency' ratio (2)	P/L	1.98	2.09	<b>2.03</b>	2.05
Per capita government spending \$	G/P	7,734	16,114	<b>16,114</b>	16,114
Government to GDP %	G/Y	20.8	22.4	<b>21.8</b>	22
Average annual labour earnings \$	W/L	37,869	77,405	<b>77,405</b>	77,405
Government spending to labour \$	G/L	15,279	33,685	<b>32,778</b>	33,083
Change in G/L due to D dependency P/L \$	Change G/L	0	1,850	<b>943</b>	1,249
W/L with change in G/L fully allocated \$	W/L — change G/L	37,869	75,554	<b>76,461</b>	76,156

Sources: See Table 1.

*Report* assumptions. These are small changes appropriate to sensitivity analysis. Significantly, in Table 2, GDP per capita now more than doubles because of the small changes assumed, while the growth in the ratio of government spending and taxation to GDP rises by 1.0 per cent by 2042: hardly cause for a second thought. In Table 3 GDP per capita grows by 116 per cent, while the growth in the ratio of government spending and taxation to GDP actually falls by 1.6 per cent by 2042.

Table 2 corresponds to an average annual GDP growth rate of 2.6 per cent. Table 3 corresponds to an average annual GDP growth rate of 2.8 per cent. The '*Intergenerational Report* model' of Table 1 has it growing at 2.3 per cent per annum. Average annual Australian GDP growth in the 40 years to 2003 was 3.5 per cent. It is hard to see what all the fuss is about.

To answer the rhetorical question of what must be done to make the 'crisis'

disappear, we propose the following: increase annual labour productivity growth by 0.035 of one percentage point more than the '*Intergenerational Report* model' projection of 1.75 per cent (that is, by 1.785 per cent per annum); have government spending per capita grow at 1.8 per cent per annum in line with the growth in the proportion of those aged 65 and older; and keep the fall in the average participation rate to 60.2 per cent by 2042. If these changes were to transpire, GDP would need to grow by only 2.6 per cent per annum, but real after-tax incomes and GDP per capita would exactly double. Our children and our children's children will be doing very nicely indeed.

What if, however, our entirely reasonable projections were not achieved and the Treasury boffins turned out to be right? What if, also, our children and our children's children decided that they wanted government spending per capita to

**Table 3: Model projections to 2042 with higher but reasonable growth projections**

Assumptions selected for model Y/L growth p.a. 2.00% G/P growth p.a. 1.80%					
Assume medium-high participation rate to 2051 (female cohort participation rates approach but do not reach men's, plus some older worker retention)					
Description	Symbol	Actual to or at Jun-03	ABS Series A 2042	ABS Series B 2042	ABS Series C 2042
Total GDP or income \$m	Y	2,219,472	2,435,496	<b>2,207,241</b>	1,990,961
Total labour force	L	14,790,301	15,324,573	<b>13,888,353</b>	12,527,478
Total population	P	30,918,639	30,918,639	<b>27,283,018</b>	24,808,223
'Productivity' \$	Y/L	150,063	158,927	<b>158,927</b>	158,927
Per capita GDP \$	Y/P	71,784	78,771	<b>80,902</b>	80,254
'Dependency' ratio (1)	(P-L)/L	1.09	1.02	<b>0.96</b>	0.98
'Dependency' ratio (2)	P/L	2.09	2.02	<b>1.96</b>	1.98
Per capita government spending \$	G/P	16,114	15,508	<b>15,508</b>	15,508
Government to GDP %	G/Y	22.4	19.7	<b>19.2</b>	19.3
Average annual labour earnings \$	W/L	77,405	81,977	<b>81,977</b>	81,977
Government spending to labour \$	G/L	33,685	31,289	<b>30,465</b>	30,711
Change in G/L due to D dependency P/L \$	Change G/L	1,850	651	<b>-173</b>	72
W/L with change in G/L fully allocated \$	W/L — change G/L	75,554	81,327	<b>82,151</b>	81,905

Sources: See Table 1.

rise in line with non-ageing-related health spending?<sup>23</sup> Moreover, what if they wanted this even if the ratio of government spending to GDP were to rise by five per cent by 2042? Well, they would get better health care and, presumably, would be healthier as a result. They would also be about 80 per cent better off in real after-tax dollars than we are today. Incidentally, it is worth a few more words to describe the effect on the budget bottom line of Henry's admission that 60 per cent of the increase in government spending per capita has nothing to do with ageing at all.<sup>24</sup> In other words we will test only the 40 per cent of the annual per capita growth in government spending of 2.042 per cent, or about 0.8 per cent per annum, that is due to population ageing. Not surprisingly, because the rate of GDP growth will outstrip the rate of population growth, the ratio of government spending to GDP actually would fall by 2042 on this

scenario, by just on five per cent (that is, to 16.1 per cent of GDP).

So what is Henry's justification for claiming, in the face of his own prediction that 60 per cent of the increase in government spending per capita is unrelated to ageing, that 'this does not mean that demography is not the big story here'?<sup>25</sup> His justification is that, if it were not for ageing, GDP per capita would be higher. This, of course, is nonsense. Once we have stripped 'demographic' causes from the calculation we are left with spending increases that would occur anyway. Look closely again at equation (2) above. The only relevant issue for demographic impact is whether G/P will rise because of ageing. This will cause G to rise in relation to P and in relation to Y or GDP.

#### 4. CONCLUSION

We hope to have shown here that the muddled thinking behind talk of an

ageing 'crisis' is a serious problem. In the terms set out in section 4 it is also evident that the demographic shifts associated with ageing will not cause an economic problem, let alone a 'crisis'. Indeed it is unlikely that even the budget fetishists have much to worry about. Do we need to do anything that we are not already doing macroeconomically? We do not think so. The Australian population will get older until we reach mid-century, but our children and grandchildren have little to worry about.

However, ungrounded fears of 'crisis' can have both the intended and unintended consequence of restricting the level of spending on aged care and income support in the future. Indeed this may well be a genuine 'crisis' of ageing

in the making. Blackburn notes that, unless real government spending in the UK, US and Europe does rise, the relative income of pensioners will fall significantly in the future. The problem will 'be exacerbated by the fact that pensions and savings will be very unequally distributed amongst those of pensionable age'.<sup>26</sup> In Australia retirees with low levels of superannuation will fare worst in future redistributions of income. Serious issues relating to inequality and poverty in old age are microeconomic issues of some importance. Unfortunately they are outside the scope of this paper, which has been concerned with exposing the myth of a macroeconomic 'crisis' of ageing.

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- <sup>5</sup> Costello, 2002, op. cit., p. 1
- <sup>6</sup> *ibid.*, Table 3, p. 22
- <sup>7</sup> *ibid.*, p. 24
- <sup>8</sup> *ibid.*, p. 30
- <sup>9</sup> *ibid.*, Table 4, p. 30
- <sup>10</sup> *ibid.*, p. 7
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- <sup>16</sup> K. Henry, 'The fiscal and economic outlook', 2004, op. cit.
- <sup>17</sup> *ibid.*, p. 6
- <sup>18</sup> *Population Projections, Australia*, Cat. No. 3222.0, Australian Bureau of Statistics (ABS), Canberra, 2005; *Population Projections, Australia*, Cat. No. 3222.0, ABS, Canberra, 2003
- <sup>19</sup> Henry, 'The fiscal and economic outlook', 2004, op. cit., p. 5; Henry, 'The economic impact...', 2004, op. cit., p. 86
- <sup>20</sup> Assuming that all tax increases are allocated to pay-as-you go taxpayers.
- <sup>21</sup> *Population Projections, Australia*, 2005, op. cit.

- <sup>22</sup> A relatively lower fall in the average participation rate can be used, *ceteris paribus*, to model a fall in the unemployment rate.
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