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**The Ageing of Australia: Fiscal Sustainability,
Intergenerational Equity and Inter-Temporal Fiscal Balance**

by

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The Ageing of Australia: Fiscal Sustainability, Intergenerational Equity and Inter-Temporal Fiscal Balance*

Greg Coombs and Brian Dollery **

Abstract

Australian public policy makers are presently confronted with significant demographic changes that will profoundly affect the formulation of rational economic and social policy over the long term. This paper seeks to outline the potential impact of this demographic change and place it in historical perspective. The challenges posed by an ageing population for fiscal policy are explored and it is stressed that policy inertia will invite severe costs in future. It is argued that an appropriate policy stance should be developed in the context of a framework for inter-temporal fiscal balance not only to focus on long-run fiscal sustainability, but also to include considerations of intergenerational equity.

Key Words: demographic change; intergenerational equity; inter-temporal fiscal balance.

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1. INTRODUCTION

Ongoing media attention on the problems posed by an ageing population in Australia has ensured that public debate is now firmly focussed on the policy dilemmas raised by the prospect of dramatic demographic changes over the long term. Prompted by the *Charter of Budget Honesty Act 1998*, which obliges the Commonwealth Treasurer to publish an Intergenerational Report (IGR) at least once every five years, and the subsequent publication of *Intergenerational Report 2002-3: Budget Paper No.5* on 14 May 2002, a growing literature has developed that attempts to address the policy implications of demographic evolution (Coombs and Dollery, 2002).

A surprising feature of this nascent literature is the fact that it has focussed heavily on long-term fiscal sustainability but overlooked the importance of intergenerational equity and the possibility of using an inter-temporal fiscal balance measure as the basis for long-run policy formulation. For instance, even current policy-orientated contributions to the debate, such as the recent *Fiscal Policy Rules in Australia* (Sims, 2003) by the Chifley Research Centre, have ignored these considerations. The present paper thus seeks to address this neglect

by presenting the case for intergenerational equity and an inter-temporal fiscal balance measure as the basis for economic and social policy making in Australia. The paper itself is divided into four main areas. Section 2 seeks to outline the potential impact of the prospective demographic change in Australia and place it in historical perspective. Section 3 examines the dilemmas demographic change posed for the formulation and implementation of fiscal policy in Australia. The paper concludes with a discussion of the case for the use of intergenerational equity and an inter-temporal fiscal balance measure by Australia policy makers.

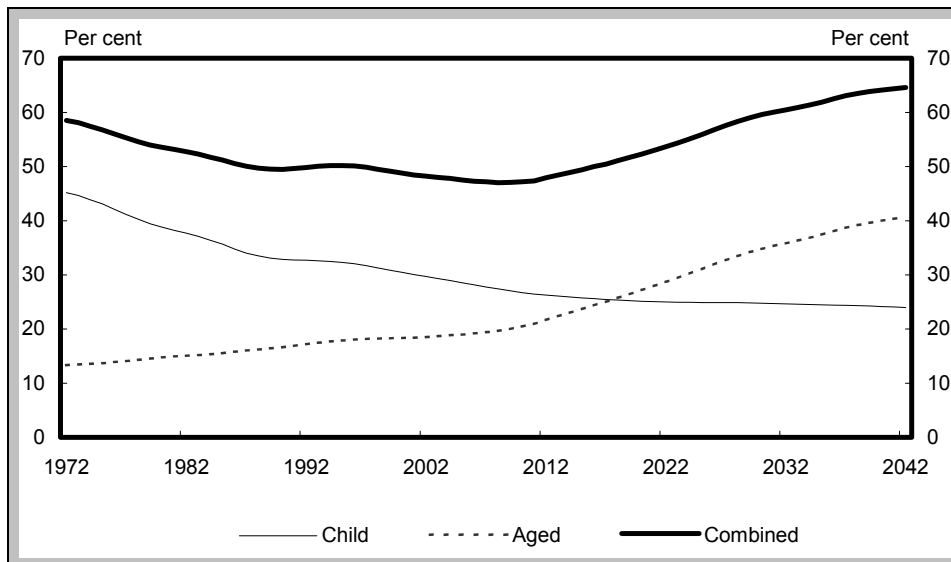
2. DEMOGRAPHIC STRUCTURE AND SOCIAL EXPENDITURE IN AUSTRALIA

Throughout the developed world, including Australia, policy makers are increasingly concerned about the rising long-term public cost of social expenditure, especially health, aged care and social security expenditure. The structure of government expenditure is changing, away from general public expenditure (such as physical infrastructure and defense) and toward social expenditure, particularly in the form of payments to individuals, like pensions (Auerbach and Lee, 2001, p. 1; International Monetary Fund (IMF), 1996, p. 46; Masson and Mussa, 1995, p. 3). For example, in 1970 social expenditure represented some 44.9 per cent of total Australian budgets, but by 2000, this proportion had increased to around 59.3 per cent (Australian Bureau of Statistics,

2001). The change in the composition of public expenditure reflects the expansion of social welfare, commencing in the late 1960s with expanded criteria for payments to individuals followed in the mid-1970s by expanded health programs most notably through the introduction of Medibank, which later became Medicare in 1984. These reforms coincided with a period from the late 1960s in which the ratio of dependents to working age population was falling (i.e. the fall in the fertility rate exceeded the rate of increase in longevity), providing some underlying fiscal relief.

The rise in social welfare, during a period of declining dependency, has helped to mask the degree of exposure of governments to the long-term fiscal implications of demographic change. Looking forward over the next 40 years, Australian population dynamics are projected to change markedly. Population dynamics are a function of the vital factors (like fertility and mortality) and immigration, the projections for which are published in the Commonwealth's *Intergenerational Report* (2002).

Figure 1.
Australian Dependency Ratio
 (Under 15 years plus over 65 years as a proportion of the working age population)



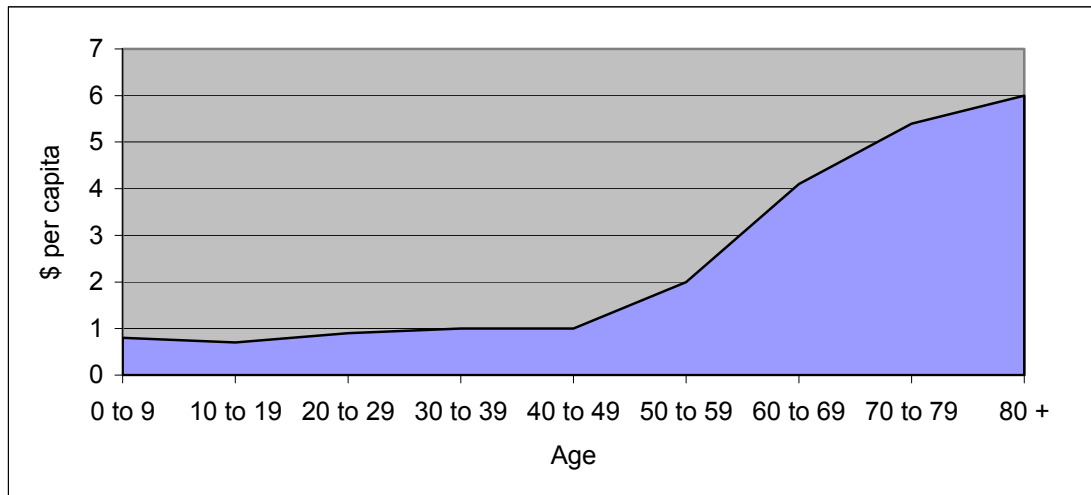
Source: Commonwealth of Australia (2002, p. 24)

Over the next 40 years, the fertility rate is projected to continue to fall to 1.6 children per woman (i.e. below the population replacement rate), albeit less dramatically from its present levels. Longevity is projected to rise, and by 2050, Australia is projected to have the longest life expectancy in the world (Dang *et al.*, 2001, p. 22). The Australian immigration program is one of the largest official per capita programs in the world (currently about 100,000 persons per annum), and immigrants have an age profile slightly younger (but not significantly so) than the existing Australian population. The net result is that the growth of the population is projected to stagnate at about 25.3 million by 2040, and the proportion of the

population aged 65 years and older is projected to more than double, from 12 per cent to 25 per cent. By 2011, this combination is projected to lift the dependency ratio, and the structure of the population will age (see Figure 1). As this ratio rises, government exposure to fiscal pressure arising from welfare reforms of earlier periods will intensify drastically.

Demographic change is projected to put pressure on social programs in several ways. For instance, age pensions are projected to rise from 2.9 per cent to 4.6 per cent of GDP over the period 2002 to 2042, as the numbers of eligible people rise, with some offset from retired persons able to self-fund at least in part their lifestyle through superannuation schemes. Similarly, health and aged care expenditures are projected to rise from 4.0 per cent to 8.1 per cent of GDP over the period 2002 to 2042, as older persons require more medical treatment and pharmaceuticals. The potency of the fiscal impact of demographic change can be readily observed from the age profile of the Commonwealth Government's Pharmaceutical Benefits Scheme (PBS), which is displayed in Figure 2.

Figure 2.
Age Profile of the Commonwealth the Pharmaceutical Benefits Scheme
(Average Weekly Subsidy Per Capita)



Source: Schofield (1998).
 Note: 1989-90 data.

The PBS subsidy per capita is age sensitive. Expenditure on aged care facilities is projected to rise from 0.7 per cent to 1.8 percent of GDP by 2042, reflecting the trebling of the 85 years and over cohort. Education expenditure for primary and secondary schooling is projected to decline as a proportion of GDP, reflecting a fall, in absolute terms, of the number of school-age children and a trend for education to be increasingly privately funded.

Non-demographic factors have accounted for two thirds of health spending growth in recent years (Commonwealth of Australia, 2002, p. 8). The most important factor is technology. Technology influences both the demand and the supply of

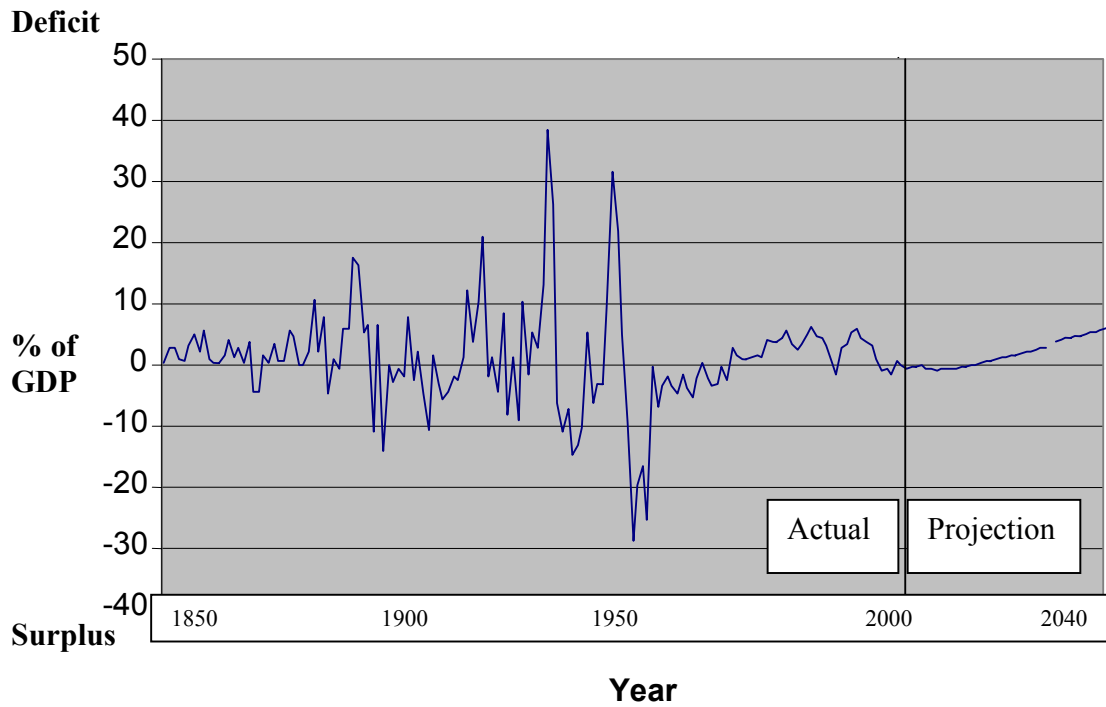
health services. More expensive diagnostic equipment and the high cost of research and development are projected to increase the cost of pharmaceuticals, medical treatment, and hospital and health services. Higher real incomes are also likely to put additional pressure on health expenditure, since health expenditure is income elastic (Parkin *et al.*, 1987). Moreover, despite more than ten years of solid economic growth in Australia, relative poverty has risen (Dawkins and Kelly, 2003, p. 45). Looking forward, higher average real incomes will not necessarily imply that older Australians will have a higher capacity to pay for public services. While the workforce is projected to rise slightly, the proportion of non-income earners is estimated to increase significantly.

Throughout OECD countries, these cost factors are projected by 2050, on current policy settings, to create substantial fiscal deficits in the order of 6 per cent of GDP (Dang *et al.*, 2001). The projections for Australia tell a similar story, with deficits projected to reach 5.3 per cent of GDP by 2042 (Commonwealth of Australia, 2002). However, the Australian projections are contentious. The estimates of the long term fiscal impact above, reflect the Commonwealth view (2002) that the fiscal impact on the States is generally neutral since the cost pressure from health expenditure is offset by savings in primary and secondary education, given current policy. However, the Victorian Government (Victorian Department of Treasury and Finance, 2003) argues that demographic change,

combined with projected rises in the quality of State services in health and education, reflecting community expectations, is projected to result in a fiscal deficit of 4 per cent of GSP, with the implication that the other States face similar problems. Thus the overall picture is even darker than that portrayed by the Commonwealth.

Australia has faced fiscal pressures in the past. Figure 3 shows the extent of these pressures since 1850. In the past, fiscal deficits have been driven mainly by epidemics, plagues and drought (late 1800s), World War 1 (late 1910s), the Great Depression (1930s) and World War 2 (late 1940s). A striking feature of future pressures is not the amplitude of the deficits, but rather their duration. The projected deficits are continuous and indeed become a permanent feature well beyond 2040.

Figure 3.
Australia's Fiscal Balance 1850 to 2040



Source: Vamplew (1987) for 1850 to 1967, Reserve Bank of Australia (2002) for 1968 to 2001 and Commonwealth of Australia (2002) for projections to 2042. Measured by change in public debt.

The rise of social expenditure not only exerts enormous fiscal pressure, but gradually eliminates the fiscal flexibility necessary for governments to respond to threats to national security, epidemics and other natural disasters, environmental remediation, and to provide scope for automatic fiscal stabilizers and for (planned and unplanned) major tax and expenditure initiatives.

Furthermore, the duration of these fiscal pressures indicates that short-term policy responses (e.g. sale of government assets) will not be adequate, and thus it will be necessary for governments to develop long-lasting policy adjustments and influence the attitudes of Australian society toward fundamental issues, such as the size of government, the duration of working life, and the degree to which individuals self-fund retirement.

In addition to the fiscal consequences, economic growth is projected to slow. Australia's economic growth is expected to slow by about 1 percentage point to around 1.9 per cent by 2042 (Commonwealth of Australia, 2002). This is in line with the projections of most other OECD countries (Dang *et al.*, 2001).

3. IMPLICATIONS FOR FISCAL POLICY

Fiscal deficits of this order are not sustainable, and the slowing of average economic growth might cause periods of stagnation. Policy adjustments will thus be necessary to arrest these problems. If these adjustments are not phased in over the next few years, then the resultant fiscal and economic burdens are likely to shift onto future generations, which raises concerns over intergenerational equity. In essence, these projections pose several challenges to traditional approaches to fiscal policy.

Firstly, in common with most other OECD member countries, Australian measures of budget balance, of which there are several including Fiscal Balance (Fiscal

balance measures, in accrual terms, the government's investment-savings balance) and Underlying Cash Balance (Underlying Cash Balance measures, in cash terms, the government's investment-saving balance) do not encapsulate the long-term implications of government policies. Traditional measures do not encompass the effects of these factors because budget estimates are based on the current demographic structure, not the future demographic structure, the cost of existing techniques rather than future technology, and do not capture the income-elasticity of public expenditures as real incomes rise. The problem, in part, reflects the 'open-ended-ness' of social programs: the number of eligible recipients, and not the budget allocation, determines expenditure.

Because the distant future impact of current policy is not encapsulated in traditional measures of budget balance, there is a temptation for government to cost shift – from current to future generations – as means of gaining community acceptance of government initiatives but without full cost disclosure. As the costs shift to future generations, current governments obviously cannot be held accountable. Identifying an incentive to cost shift does not necessarily imply that governments intentionally cost shift. However, the public choice literature demonstrates that cost shifting is a real problem, particularly between the Commonwealth and the other tiers of government (see, for example, Commonwealth of Australia, 2003a). Given these observed cases of cost shifting,

there is little doubt that cost shifting is occurring in the far less transparent case of between generations.

Secondly, public debate about the need to consider the implications of current government policy on future generations has been conducted outside of any framework of objectives. In essence, the general objective is to balance the budget, but there are various conceptual frameworks within which to pursue this aim. Two such frameworks are fiscal sustainability and intergenerational equity. If society aims for one of these objectives, but subsequently finds that the other better measures the true impact on the economy, what would be the fiscal and economic implications? What would it mean for the design of policies? Does one objective 'buy' more time to implement policy change before the Australian baby boomers reach pension age? Thus a lack of clear conceptual framework and objectives is potentially damaging to society. We need to understand the speed, direction and timing of change.

Thirdly, we do not know the extent of the intergenerational imbalance in Australia. A technique, known as Generational Accounting, has used 1991 and 1995 base line data to measure intergenerational balance (Ablett 1996; 1999). However, the generational accounts have not been updated since then, and there is thus no record of whether recent decisions by Australian governments have resulted in an improvement or deterioration in the intergenerational imbalance. While the

Commonwealth government has almost eliminated public debt, the current stock of debt is generally not an important part of the intergenerational imbalance (Raffelhuschen, 2001, p. 238). The dominant factor is the future implications of current policy.

Finally, it has been suggested (Dowrick and Day, 2003) that one way around this problem is to simply raise taxes – to reflect society’s preference for public goods (particularly health services) - and recognise that Australians will, on average, be 2½ times more wealthy in 2042 than they are now. However, what a boon it would be for Australia if it were able to adopt a superior set of policies that avoided substantial rises in taxation, while the other OECD countries, facing similar problems, were forced to raise taxes because their governments lacked the courage for earlier policy change. Such a situation would create a major competitive advantage for Australia, and serve to promote Australia to the top of the OECD rankings. Of course, the converse of this argument also holds true. Furthermore, Australia’s trading neighbours in Asia will undergo a totally different demographic cycle. An abundance of young relatively well-educated and healthy workers could see these economies catch up, while the OECD languishes with a stagnating workforce, higher taxes and low economic growth.

4. LONG-TERM FISCAL BALANCE

Fiscal sustainability and intergenerational equity are key concepts in the measurement of long-term fiscal balance. Turning first to fiscal sustainability, this concept refers, in general terms, to a balanced budget on average over the very long term, but is defined in various ways.

Chalk and Hemming (2000, p. 3) contend that fiscal sustainability should follow the rule of non-increasing debt: That is, the present value of future primary surpluses (before interest of debt) must exceed the present value of primary deficits by an amount sufficient to cover the difference between the initial stock of debt and the present value of the terminal stock of debt. In a variation on this approach, Wells (1995, p. 273) argued that in a growing economy, as long as the GDP growth rate exceeds the interest rate on debt, or the primary fiscal surplus is positive, then fiscal policy is sustainable.

A somewhat different methodology (the more familiar balanced budget approach) is published by many OECD governments. Under this approach, all contemporaneous expenditure is financed by contemporaneous taxes, and any public debt is an imposition upon future generations. The balanced budget approach can be measured in cash terms or accrual terms, and Australian governments tend to use both methods.

In recent times, Australian governments have moved to develop public sector balance sheets as a means of improving fiscal management by better matching revenue with ongoing expenditures and the consumption of assets. A balance sheet of assets and liabilities enables the measurement of net worth. The net worth measure has been argued to be superior to net debt as a target of fiscal sustainability because it takes into account changes in all government assets and all liabilities (Bradbury *et al.*, 1999, p. 13). Furthermore, the measure gives an overall view on whether borrowing is being made for investment or construction since the latter would increase liabilities without a matching increase in assets (and accordingly net worth would fall). In stock terms, a balanced budget is equivalent to the maintenance of constant 'net worth' (Robinson, 1998, p. 448). Thus, maintaining constant net worth is a measure of fiscal sustainability. A variation on constant net worth is to target zero net worth.

The fiscal balance rule (Kotlikoff, 1999, p. 9) is based on the economy's intertemporal budget constraint. The fiscal balance rule holds that the lifetime payment of each successive generation should equal the flow of government consumption less interest on the economy's capital stock that remains after taking into account the amount consumed by the current elderly. Since this involves a time path for each variable; future values must be converted to present values.

Budget flexibility indicators represent a separate strand of the literature (Chalk and Hemming, 2000, pp. 7-8). This approach focuses on how far fiscal policy departs from sustainability with the use of a set of indicators. These indicators are not backed by formal definitions of fiscal sustainability, but rely solely on intuition. For instance, one indicator is the primary gap indicator, based on the permanent primary deficit necessary to stabilize the debt ratio. A second indicator is a tax gap indicator, based on the permanent tax to output necessary to stabilize the debt ratio. The difference between these indicators is essentially a matter of emphasis, the former pointing to a reduction in the deficit required for sustainability of the debt, and the latter indicating the increase in tax required for sustainability of debt for given current spending policies. A third indicator is the structural budget balance, which is the residual balance after purging the actual balance of the estimated budgetary consequences of the business cycle.

Fiscal sustainability in a certain world may not translate into an uncertain world. The main conclusion from this line of inquiry is that the fiscal position is sustainable if the primary surplus responds positively to an increase in debt. If this is indeed the case, then the government has made an effective investment in the economy with the use of this debt. Uncertainty can also be handled through 'stress testing'. Possible shocks are simulated to understand the impact on and

transmission mechanism to a country's fiscal position (Chalk and Hemming, 2000, p. 10; Hemming and Petrie, 2000, p. 11).

In an open economy, such as Australia, fiscal sustainability and external sustainability are linked. As Chalk and Hemming (2000, p. 20) observe, this link has not been systematically examined. The chief difficulty resides in the fact that there is no direct link between fiscal sustainability and external sustainability; in an analogous way there is also no direct correspondence between the 'twin deficits' (the fiscal deficit and the current account deficit). But these measures of sustainability are not entirely independent either.

According to this perspective, fiscal sustainability has been expressed in terms of the size of public debt, solvency and so on. But governments can achieve fiscal sustainability simply by raising taxes. Therefore, in order to ensure that fiscal sustainability is achieved without damage to the welfare of the economy, the concept of optimal taxation must be introduced. Optimal taxation is the rate of tax at which the marginal benefit of public expenditures is equal to the marginal cost of taxation. At this point the optimum size of government is determined. Embodied in this definition are the principles of good tax design. However, the theoretical framework is not easy to apply, and there is no reason to expect that the optimal taxation point is static over time in a dynamic economy (Cullis and Jones, 1998, p. 188; Rosen, 2002, p. 320, p. 330).

Intergenerational equity is a broader concept than fiscal sustainability. Intergenerational equity refers to the maintenance of living standards, and in more concrete form, defined as being that the cost of public expenditures should be distributed over time in a way that reflects the inter-temporal spread of the benefits generated by those expenditures (Musgrave, 1988; Robinson, 1998).

A fundamental principle of intergenerational equity is the *benefit principle*: taxpayers in each time period should, as a group, contribute to public expenditures from which they derive benefits in accordance with their share of the benefits. In other words, they should ‘pay their way’, without either subsidising, or being subsidised by taxpayers in other time periods. This approach provides for contemporaneous taxation of any expenditure the benefits of which are enjoyed contemporaneously (Robinson, 1998, p. 447; Musgrave, 1988, p. 133).

An implication of intergenerational equity is that capital accumulation should be debt financed, and the debt amortized over the useful life of the investment. This involves the decomposition of the budget between current and capital expenditure, with the former being tax and the latter being debt financed. This raises the issue of the definition of a capital. For public assets there is no useful analogy with ownership, as embedded in the accounting concepts of the private sector. Public assets include investment in social capital via health and education and in the natural environment via protection and remediation measures, social cohesion and

so on. However, clearly defining what portion of expenditures is capital and current, and then depreciating the components of capital over their estimated economic lives would be difficult. Added to this difficulty is that the intergenerational benefits may be derived not only from income-yielding capital, but may also take an intangible form. For example, the cost of a war, fought by one generation, should be shared by the succeeding generation since the latter shares in the benefits of national security (Musgrave, 1988, p. 134).

In sum, the literature on fiscal sustainability is incomplete. Further conceptual development is needed to determine its shortcomings (Hagemann, 1999, p. 3, p. 9) and to draw some consensus about which of the definitions are best suited to dealing with long term fiscal policy. Similarly, the concept of intergenerational equity is underdeveloped, including the issue of whether the notion of equity in this context accords with equity in a contemporary sense. Basically, these concepts translate to differing interpretations of the extent of inter-temporal cost shifting, but little attention has been paid to the differences between these concepts.

Finally, despite these arguments, it may well be asked: do we really need another measure of fiscal balance in Australia? This reasonable question may be answered as follows: The budget papers of all tiers of government are often criticized for complexity, and it may be argued that yet another measure of fiscal balance is the last thing that Australian public require. However, while budget papers should be

as accessible as possible, they nevertheless deal with complex matters. By way of analogy, like motorcars we drive, we trust that budget papers are solidly constructed and are tested for all weather conditions even though we may understand little of its workings. The public does not need to have a detailed understanding of methodologies regarding long term projections, but they do need to be confident that policy makers nonetheless have an adequate means for diagnosing impending problems in the context of sound analytical frameworks, and the opportunity to understand the long term fiscal implications of current policies. Accordingly, the best way that the Australian public can be served is through transparent processes, and in particular, through the publication of coherent analytical measures.

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