1. Economic Growth, Wellbeing and Protecting the Future: An Overview of the Castles Symposium

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The symposium context

Australia has for many decades been at the forefront of efforts to improve measurement of wellbeing, and is investing significantly in continuing this work. There is increasing international interest in the field highlighted by such contributions as Bhutan's famous 'Happiness Index' and the 2009 Stiglitz, Sen and Fittoussi report commissioned by French Prime Minister Sarkozy which has heavily influenced work by the OECD. Australia has also been exploring ways to make use of such measures and their underpinning concepts of wellbeing in advising on public policy. Behind all these efforts has been widespread criticism of the use of GDP and GDP per capita as indicators of wellbeing, some critics renewing past debates about whether the pursuit of economic growth may involve significant social costs including unacceptable inequality and/or may undermine the wellbeing of future generations because of the environmental costs involved. At the same time, while Australians are currently experiencing unprecedented levels of wealth and living standards with relatively low unemployment, inflation and interest rates, the political debate is dominated by talk of increasing cost of living pressures, poor international economic conditions, sluggish growth and structural budget deficits, and whether measures to address climate change and other environmental concerns might be imposing unreasonable costs now.

What do we mean by 'wellbeing' and 'economic growth', and what have we learned about measuring them? How does inequality impact on overall wellbeing? Is economic growth a 'good' or a 'bad'? How should we balance concerns for the present with considerations for future generations? These are the main issues explored in this symposium.

The issues are certainly highly relevant to contemporary policy debates, and are usefully informed by the substantial body of recent research and development. But they are also hardly new as Ian Castles' work over four decades illustrates.

The role of economics in defining and promoting wellbeing

Castles' work remains highly relevant, particularly in highlighting how economics and the social sciences more generally can help people and governments to manage the trade-offs necessarily involved in these issues.

Michael Keating draws attention to Castles' deep concern for facts and their proper interpretation, noting his anguish when facts were distorted or numbers manipulated in the pursuit of some predetermined objective, no matter how worthy (or not). Castles himself was in no sense political, says Keating, but committed to good policy process, acutely aware that good policy advice must address the inevitable trade-offs involved and that in this respect economics is, or at least should be, especially useful.

William Coleman focuses on Castles' 1984 paper, 'Economics and Anti-Economics', 'a *tour de force'* says Coleman. In this paper, Castles shows with devastating evidence that it was the classical economists of the nineteenth century – Smith, Ricardo, Mill, Malthus *et al* - who demonstrated real concern for the poor and disadvantaged, support for universal education and opposition to slavery, in direct contrast to their critics of the time – Coleridge, Carlisle, Ruskin *et al*. Castles takes on three contemporary celebrity intellectuals – CP Snow, JK Galbraith and Kenneth Clarke – showing how their portrayal of the classical economists represented the reverse of the truth. In discussing Castles' paper, Coleman highlights the different motivations of the professional commentators today and the classical economists of the past, that they 'make a profession of saying with elegance and unction what their audience finds most acceptable' to quote Galbraith himself (as Castles mentions with some disdain).

The question is why did Castles, being Secretary of the Finance Department at the time, put so much time and effort into this 30,000-word treatise? We do not know for sure, but suspect the context was critical: 1984 was in the early days of the Hawke-Keating Government as it began its agenda of social and economic reform, an agenda Castles and his department contributed to greatly. By showing so convincingly the role of the nineteenth century economists in reforms that not only increased efficiency and fed the industrial revolution, but also improved the condition of people and their rights and opportunities, and by demonstrating that their opponents were not fighting for the poor and oppressed but for the preservation of the privileges of the rich and powerful, Castles provided the reformers of the 1980s reason to believe economics could successfully assist them, whatever their social policy priorities might be. In this and other papers he wrote in the 1980s (such as 'Facts and Fancies of Bureaucracy' in 1986), Castles challenged populist critics of the economics profession (and the public service) in their portrayal of economists as conservative protectors of the status quo and supporters of inequality. He may also have had concerns that some critics of the government on the right were cloaking themselves in the mantle of economics as if the discipline necessarily supported their political preferences.

The 1984 paper is also illustrative of Castles' views of the need for a broad definition of wellbeing. This appreciation that wellbeing involves far more than GDP per capita was most clearly set out in the 1973 Treasury paper, *Economic Growth: Is It Worth Having?,* which we understand Castles was responsible for putting together. The paper in fact provides fascinating background to the whole symposium, touching on each of the issues discussed.

The paper addresses the common misconception that economists have a pre-occupation with a narrow concept of economic growth based on GDP and GDP per capita. Economists have never claimed that GDP covers all aspects of welfare or wellbeing. Indeed, the rate of growth in GDP is never the objective: the objective is the efficient use of available resources to establish and maintain those patterns of production and distribution which conform most closely to the preferences of the community. One of the consequences of policies that achieve this objective is, in most but not all cases, increases in measured GDP and GDP per capita. That is, economic growth 'is best regarded not as a goal or a target but rather as a *result'* of good policies.

Interestingly for people today, this 40-year-old paper not only promotes a wide concept of wellbeing but includes many references to environmental concerns including 'the possible "greenhouse" effect of increased carbon dioxide in the atmosphere'. It acknowledges the need for pollution abatement (not specifically for carbon pollution, the paper noting the 'uncertainty and dissension amongst scientists' at the time), but not by dampening economic growth. The deficiency that causes excessive pollution is inherent in the unregulated working of the market which allows the 'wrong' market price, a deficiency which 'occurs independently of the rate at which the economy which that system regulates is growing'.

This distinction between economic growth and measures that might address broader concepts of wellbeing, including 'sustainable' wellbeing, remains important. The concept of 'growth' suggested in the 1973 paper – 'expanding the options available to realise society's priorities' – leaves no real room for opposition to growth. It allows for consideration of wellbeing factors not included in standard measures of the economy, it allows consideration of the distribution of wellbeing, and it allows consideration of balancing future and current wellbeing.

A danger is that, for some, this might seem to be sophistry, providing an all-too-easy escape route for economists from criticism that their tools of analysis are not value-free. The points so clearly exemplified by Castles himself are to allow both governments and individuals to set their values, objectives and priorities, for economists to focus on the tools and related evidence that support governments and individuals to do so acknowledging when they themselves are advocating a particular value, objective or priority, and for continuing effort to improve the tools and related evidence.

Session 1: Measuring real income and wellbeing

Brian Pink (the Australian Statistician), *Sue Taylor and Hannah Wetzler*, provide a brief history of the development of measures of social and economic progress over the last fifty years, highlighting how the focus has shifted from economic development, towards societal wellbeing and environmental sustainability. The ABS has long contributed to this, from its social indicators work in the 1970s followed by the Australian Social Trends series introduced by Ian Castles in 1994. Pink *et al* describe how the Australian initiatives paralleled international efforts including through the United Nations, aimed to promote 'social progress and development' and, later, to address progress against the UN's Millennium Development Goals.

Pink *et al* describe in some detail more recent work both in Australia and overseas to develop broader overarching ways to view and measure progress and wellbeing. The ABS Measuring Australia's Progress (MAP) was a watershed when first introduced in 2002, the first national statistical agency effort to produce a broadly focused measuring tool for assessing national progress. Importantly, MAP offers instead of some aggregate index, a 'dashboard' of progress indicators across three dimensions – society, economy and environment – allowing people to weigh the different elements as they see fit. MAP has also been refined over the years and, most recently, has been subject to a very extensive consultation process with a wide range of stakeholders and the general public to identify Australians' 'aspirations' for future progress. These developments have contributed to, and been influenced by, international work such as the UK's Measuring National Wellbeing initiative, the EU's Beyond GDP and even Bhutan's famous 'happiness index'. A key international development came with the 2009 Stiglitz-Sen-Fitoussi report on the Measurement of Economic Performance and Social Progress. Like MAP, this report avoids any aggregate indicator instead offering a range of measures - of both averages and distributions - in three fields, allowing people to set their own weights for the different aspects of wellbeing. The report also suggests the use of both subjective and objective measures. The subsequent OECD 'How's Life' framework uses indicators in the three fields identified – quality of life, material living conditions and (not yet completed) sustainability of wellbeing over time – and also incorporates subjective data based on survey information.

Looking to the future, Pink *et al* mention the ABS work now on a fourth dimension for MAP on governance, and on improving measures of family and community wellbeing, the built environment and the distribution of wellbeing. They also describe the next stage of international work, referring to the OECD's desire for an international agenda on progress goals to bring together work on wellbeing, the post-2015 development agenda (involving the review and update of the Millennium Development Goals) and the Sustainable Development Goals to create a more holistic understanding of progress. The challenge for Australia and for the world will be to harmonise and link consistent information on the state of individual households to macro-measures of wellbeing and to come up with a consistent approach to subjective wellbeing measures in order to allow for some level of international comparison.

Pink *et al* note the important contribution Castles made both to Australian developments and internationally. Castles' papers included in this volume illustrate aspects of this contribution. The first paper included in this section, 'Measuring Economic Progress: From Political Arithmetick to Social Accounts', demonstrates his deep understanding of economic history (and his appreciation of the work of Colin Clark and other Australian economic pioneers) and the long-standing challenge to measure progress. In papers included in other sections of this volume, Castles shows just how misleading the focus on GDP and GDP per capita can be when trying to assess and compare wellbeing in different societies, revealing Australians benefit in many ways from things not incorporated into GDP. At the same time, Castles was fascinated by the strong correlation between GDP per capita and many other indicators of wellbeing including those relating to health, education and the environment.

Furthermore, Castles had a long interest in measuring wellbeing as demonstrated by the five papers in this part of the book. There are at least two aspects to this interest – (1) that wellbeing encompassed much more than economic growth and how do you measure it and (2) that reliable international comparisons could provide valuable insights.

On the first issue, Castles was sceptical of composite indices which involved value judgements on the relative importance of the variables involved in the index. In his 1999 paper, 'Reporting on Human Development: Lies, Damned Lies and Statistics' he was particularly critical of the Human Development Index bemoaning that 'Packaged information has replaced scholarship as the source of knowledge about the world in which we live'. He was also critical of the lack of recognition of social sciences including by bodies such as UNESCO which have a responsibility for the advancement of science.

On the second issue, Castles was often horrified by the lack of concern given to good quality data and appropriate methods when making international comparisons. On a number of occasions he intervened and the papers provide several examples of his interventions. His motives were often misunderstood. He had no ideological agenda. He was driven purely by the desire that analyses, that can influence policy, be done properly. In particular with international comparisons, he wanted to ensure that like was compared with like as far as possible especially with the underlying statistical data.

The papers provide several important examples.

- The poor quality data used in the Human Development Index led to many results lacking any credibility.
- The use initially of exchange rates rather than purchasing power parities resulted in grossly exaggerated estimates of global inequalities of incomes in the UNDP's Human Development Report. As a consequence of this flaw, the UNDP had concluded that developed countries were getting richer and that developing countries were getting poorer despite much higher average growth rates in developing countries. There were riots in places like Seattle based on this false premise.
- The initial failure by the International Panel of Climate Change to use purchasing power parities when estimating the size of countries' economies for input into its then climate change model resulted in unrealistic estimates of future economic growth – and consequential growth in carbon emissions - because the starting points in the model for developing countries were far too low.
- The failure also by the World Bank to use purchasing power parities when estimating energy intensities led them also to exaggerate the extent of energy inefficiency in developing countries.

While the UNDP did finally accept Castles' suggestions, this was only after vigorous debate in which Castles' tenacity finally won through as is clear from the papers included here (particularly 'The Mismeasure of Nations: A Review Essay on the Human Development Report' and 'Lies, Damned Lies and Statistics'). Not only did the errors Castles identified greatly exaggerate inequality across nations but, more importantly, the false data were being used to suggest entirely inappropriate countries as models for development success. Castles objected strongly to the political advocacy involved and the failure to let policy respond to the facts rather than to mould 'facts' to a pre-established policy. Whilst immensely pleased that his efforts resulted in significant improvements to the HDI, Castles was still not a supporter. He did not believe a single number could ever accurately represent a complex phenomenon like development.

John Hawkin's contribution is to summarise four different approaches to measuring wellbeing: adjusted GDP, a dashboard of indicators (e.g. ABS's Measures of Progress), composite indices (e.g. HDI), and subjective happiness indicators.

While Pink focuses on the measurement of wellbeing, *David Gruen* and *Duncan Spender* examine how a wellbeing focus might improve the process of policy advising. Their paper explains the Treasury Wellbeing Framework (TWF) and the rationale behind its introduction: to help Treasury in its role to advise and assist ministers on the trade-offs involved in promoting wellbeing. The TWF starts with a statement that wellbeing primarily reflects people's substantive freedom to live the life they want, a pluralistic concept drawing on Amartya Sen's capabilities approach emphasising opportunities. While acknowledging the conceptual and measurement challenges involved in using 'wellbeing' as the focus, Gruen and Spender highlight the pragmatic nature of the TWF and that its application draws upon rather than replaces the many analytical tools traditionally used by Treasury.

Gruen and Spender also emphasise that the TWF is used to help ministers and cabinet make their choices on policy and the trade-offs involved, not to establish any Treasury value judgements. This emphasis on Australia's democratic process is not only in line with the apolitical role of the public service but is also consistent with evidence of a positive relationship between democracy and societal wellbeing.

The TWF uses five dimensions of wellbeing: opportunities, distribution, sustainability, allocation of risk, and complexity of choices facing people. In response to a particular public policy issue, the TWF guides Treasury officers to identify options and their impacts on these five dimensions, and to assist ministers to make value judgements on the balance between them (or within them such as the distributional impact), taking into account their assessment of community preferences and hence wellbeing.

Jonathan Pincus provides a critique of the Treasury Wellbeing Framework at a number of levels. At one level, he questions whether we actually want Treasury to worry about the wide range of issues Australian society worries about or whether it should concentrate on its primary role as economic adviser to government In this context, perhaps TWF is symptomatic of a principal-agent problem, where Treasury in fact has incentives that differ markedly from those (ministers and cabinet) its framework proposes to support. Pincus also questions whether the TWF can possible guide Treasury or the government consistently across time and across policy decisions without identifying any ranking or weighting of its component parts. TWF may, as Treasury asserts, reinforce the importance of trade-offs both between and within the dimensions, but without any lexicographical ordering or without using weights explicitly or implicitly it can do no more than this. It may even allow Treasury officers to pursue any bee they may have in their bonnets. Pincus asks for some evidence of how in practice Treasury has used TWF and whether it has been subject to review. At a more detailed level, Pincus comments on each of the five dimensions of TWF, criticising the lack of precision in much of the language and the limited application of relevant economic theory and research; again he questions how the TWF can be made operational and help with consistency and transparency. Pincus concludes that the TWF needs far more work and, in its current form, could do more harm than good.

Richard Eckersley pays tribute to Castles, while noting that they had been sparring partners over many years. He continues to challenge the Castles' view that 'GDP is a valuable and necessary, but not sufficient, measure of material progress', notwithstanding that Castles acknowledged a much wider understanding of wellbeing than economic development or money and was willing to incorporate subjective measures. Eckersley is concerned that such models of wellbeing still focus on material progress, usually measured by GDP, in the face of growing evidence that such progress is not making life better, quite apart from its limitations in terms of sustainability. His argument is that GDP, and more recent wider measures incorporating subjective wellbeing, measure westernisation or modernisation and do not capture the sense of disquiet and pessimism western people feel about their societies. He draws attention to research findings that reveal a stark difference between people's assessment of their own personal happiness and life satisfaction and their assessment of life in general or the lives of others. The more pessimistic views of society wellbeing are also reflected in recorded views that emotional wellbeing of Australians has been declining even though most said their material standard of living was higher.

Eckersley is also concerned about the 'paradox of freedom'. Modernisation may have shifted people's concerns from simply having enough of life's basic necessities to a desire for free choice in how to live their lives, but such freedom is not without its downsides. It may create new opportunities for personal experience and growth but it also carries risks of social dislocation and isolation. Social wellbeing measures, he believes, have a bias in favour of individualistic societies and are still missing a critical dimension of human wellbeing – the more intangible, cultural, moral and existential aspects of life.

There was a rich debate at the symposium about the TWF and Pincus's criticism of it. While some agreed with Pincus, expressing concern that the TWF could dilute Treasury's particular contribution to government decision-making including its devil's advocate role, others welcomed Treasury taking a broader view, noting that in the past a narrower perspective had limited the Treasury's influence in government and also that a broader view can help in attracting and retaining high quality staff. A critical dilemma was also highlighted: who should rank the TWF dimensions or place weights within and between them? While such weighting may be essential for applying the framework to determine a particular policy and to ensure consistency, surely this is the role of the elected government not officials.

Nonetheless, suggestions were made to make TWF more robust and intellectually more rigorous, including by explaining in more detail each of the five dimensions. One possibility raised was whether the five dimensions might be mapped in some way to traditional public finance theory on the role of government in a market economy. Musgrave and Musgrave[1] identify three functions of government: allocation, distribution and stabilisation. Perhaps the 'opportunities' dimension could be mapped to the 'allocation' function, delivering public goods and addressing market failures; the 'distribution' dimension is presumably the same as the traditional 'distribution' function; and the 'sustainability', 'allocation of risk' and 'complexity' dimensions may all relate to the 'stabilisation' function (though the Musgraves focus on full employment and inflation rather than broader concerns about risks the market may not be able to handle). Such consideration might also stimulate more careful study of the contribution the TWF does or could make in responding to developments in economics and the social sciences and understanding of the role of government. For example, more might be made of how the TWF emphasis on 'opportunities' reflects Amartya Sen's work (interestingly, it also resonates with the 1973 Treasury paper's definition of 'growth' as 'expanding opportunities'). Greater clarity is also needed about the application of the 'complexity' dimension, noting its obvious and direct relevance to concerns about the complexity of tax and social security laws and many areas of regulation, but also the more ambiguous role of government in addressing complexity outside of government such as in international financial markets. TWF might also be enhanced if it were subject to independent expert review including examination of its application in a range of cases of policy advising.

Eckersley's concerns, of course, come from the other direction: that the concept of 'wellbeing' is still not broad enough. What remains unclear is whether the foreshadowed further work by the ABS and the OECD and others, on governance, family and community, will or even could address the claimed limitations of the current individualistic approach. Will the even broader approaches mooted by these organisations still reflect values of modern western society that may have unacknowledged negative impacts?

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1 Musgrave, Richard A and Musgrave, Peggy B (1980). *Public Finance in Theory and Practice*, (Third Edition), McGraw-Hill Kogakusha, Ltd, Tokyo.

Session 2: Measuring inequality

Henry Ergas concludes provocatively that inequality is good for you, albeit unequally so, and hence that not all problems are as bad as they seem, and not all solutions as wise. He bases this conclusion on four propositions: firstly, that not all increases in inequality are bad; secondly, that not all reductions in inequality are good; thirdly, that some changes to reduce inequality can be bad; and, finally, that fashionable policy responses could do more harm than good. Ergas draws on both Australian and international data to support each of these propositions, noting for example the dominant role of widening market incomes in recent increases in inequality internationally and the contribution to this of such positive factors as increasing workforce participation by women and an ageing but better skilled workforce. He also questions concern about increased inequality if those on low incomes also experience increased real incomes from economic growth: if more redistributive policies reduced overall economic growth, the poor as well as the rich might be worse off. Moreover, increasing taxes for the rich may not raise the expected additional revenue given the likely elasticity of taxable incomes. Ergas also notes that there has been little change in recent years in the distribution of disposable incomes (after tax and including transfers) in Australia in contrast to much overseas experience, in part due to some compression of real wages here offsetting the impact of reduced working hours of those on low incomes (which has also occurred elsewhere) and of increased working hours of those on higher incomes (but with relatively lower incomes given the compression of wages). The forces driving this result, Ergas suggests, include many positive features.

Ergas highlights the importance of the dynamics involved in income distributions: he refers to Australia's relatively high rates of transition out of poverty and also to evidence that the share of income by the top few per cent of Australians has not changed much, but that the turnover of people in that group is very high – 'the top floor is full, but with different people every night'. He implies that the focus of policy should be on those with multiple disadvantages and who suffer persistent disadvantage, and on equality of opportunity, rather than inequality *per se*. He suggests that, just as Castles argued that growth in GDP should not be the objective but may be the result of good policy, no particular income distribution should be set as a target: the distribution (quoting Castles on GDP) 'come(s) out of the complex of decisions made by governments, institutions and individuals … (and is) to be neither pursued nor shunned'.

Ergas refers frequently to Castles' work, highlighting the care Castles took to rest his assessments on a sound analytical base. This is demonstrated in the two Castles papers included in this section of the book. In comparing living standards in Australia and Japan in his 1990 paper, Castles not only examined factors such as population density, the use of time (including the work time required to purchase necessary supplies of food and power), housing conditions and land use, going well beyond prevailing measures of wellbeing that suggested that Japanese living standards were higher on average than in Australia, but he also explored the living standards of low and high income households. Not only did he find Australian living standards higher on average but also that low-income households were more affluent than their Japanese counterparts. Low-income households in Sydney were smaller, had fewer earners and spent less of their income on essential food and utilities.

Castles focused even more closely on distribution issues in his 1987 paper comparing Australia, Sweden and the United States. In this study, Castles examined both income distributions and distributions of consumption power, carefully working through the demographic and tax and social security differences across the countries and applying consistent definitions of income and household types. The data strongly suggest that the distribution of household incomes in Australia was less equal than in Sweden in 1984, and more equal than in the US, that the purchasing power of money incomes in Australia was lower on average than in the US and higher on average than in Sweden, and that the real value of low household income in Australia was higher than in the US and lower than in Sweden. These findings however encompass much more complex differences across different household types and different sources of income.

Rob Bray examines changes in income inequality in Australia and the re-distributional impacts of taxes and government benefits. Rather like Ergas, Bray suggests that it is frequently not changes in inequality itself which matter but rather the causes and the consequences. Bray also cautions about relying on income when examining inequality, noting that wellbeing involves more than income and that the other factors may not always correlate well. He demonstrates this by revealing the differences in the distribution of income, consumption and wealth (noting for example that only 3.2 per cent of the population are in the lowest deciles of both income and consumption despite a degree of correlation between the two, and that the correlations of income and consumption with wealth are much lower).

Bray disaggregates the main factors which impact on income inequality – earnings, workforce participation, government transfers and income tax – noting that increased income inequality can be caused by greater workforce participation and more two-job households, higher levels of retirement, falling reliance on income support and lower tax rates, all of which are arguably good things for individuals. Overall, Bray identifies a small increase in income inequality since 1990, based on Gini coefficients and a range of data sources, though he notes some inconsistency between different data series and some volatility. He also notes that there have been significant real increases in income at all levels over this period. The main contributors to the increase in inequality include, in particular, changes in the market incomes of both first and second household earners, and from investments and superannuation; interestingly, income tax has also contributed to the increased inequality over the last two decades not because of any less progressive a scale but because of a lower average tax. Bray suggests the changes in inequality should be split between two periods. Between 1984 and 1999 the spreading of wages and growth in employment increased inequality while increased family benefits worked in the opposite direction; between 1999 and 2008 wage dispersion decreased but family payments changes contributed to higher levels of inequality even after allowing for taxes and transfers. In sum, incomes are less equally distributed across households than at some points in the past; more recent changes indicate a somewhat reduced role for income support payments and income tax in redistributing income, though this may be due to the way these interact with other changes in society rather any changes in policy.

Peter Whiteford uses international comparisons across the OECD to assess income distribution especially the re-distributional impact of taxes and government transfers. Many of Whiteford's findings are contrary to conventional wisdom in Australia. These include findings that, compared with other OECD countries, Australia (a) has a relatively low level of inequality, (b) has one of the most progressive tax systems essentially because of the low direct tax paid by low-income households, (c) has a welfare system that is the most targeted in the OECD, and (d) has a relatively low level of middle class welfare compared to other OECD countries.

Despite these findings the reduction in inequality from government income transfers is not as great as might be expected. Redistribution is a product of both the progressivity of spending and the level of spending. As the overall level of government transfers is relatively low (18.7 per cent of GDP in 2012 compared with an OECD average of 21.7 per cent), the impact of Australia's tax and transfer system on reducing inequality is not as great as it might otherwise be. If a further reduction in inequality were desired it would probably require an increase in government taxes and benefits. On the other hand, an implication of Australia's strong targeting is that a relatively small cut in transfer spending would increase income inequality in Australia to a larger extent than in any other OECD country.

Whiteford highlights that although inequality is relatively low in Australia, there are important areas of inequality that need addressing with Indigenous people being a particularly important group.

One of Whiteford's important contributions is his analysis of the measurement challenges involved in analysing and comparing income distributions and the impact of government taxing and spending. Apart from the impact of tax and transfer systems, he also looks at the redistribution effects of non-cash benefits building on the pioneering methodology first introduced by Ian Castles in 1987 for the fiscal incidence studies he led during his time at the ABS.

What is clear from all the papers and the symposium discussion is how complex is the issue of inequality. Inequality of what – income, consumption, 'wellbeing'? Inequality amongst whom – individuals, families, households, different types of households? What measures of distribution should be used? How to take into account mobility within a distribution. Over what period should distribution be measured and changes identified? What is contributing to inequality and changes in inequality?

Secondly, there is the issue of where the focus of policy should be in addressing inequality. Most participants accepted that inequality *per se* is not generally the problem, and that the main focus should be on multiple disadvantage and persistent poverty (including inter-generational poverty), and on ensuring equality of opportunity. Recent ABS consultations associated with future development of MAP revealed that equality of opportunity was widely identified as critical to society wellbeing.

This considerable degree of consensus should not be mistaken for agreement that the current level of inequality does not represent a problem deserving serious attention. There remain important areas for debate, some related to the issues debated more vigorously in the previous session of the symposium. Is it true that increased inequality is of no concern if all incomes are increasing, or is there a limit to inequality in order to protect social solidarity? Also, some expressed concern that inequality within families and households needs to remain on the agenda, and that the current emphasis on family-based means testing is disadvantaging women.

Session 3: Climate change and limits to growth

David Henderson provides a fascinating and highly personal account of how he and Ian Castles became involved in the debates over climate change. Castles' involvement was, he says, 'entirely unplanned and fortuitous', arising from a meeting he attended in 2002 with the newly appointed Chair of the Intergovernmental Panel on Climate Change (IPCC), Dr RK Pachauri. Pachauri invited Castles to write to him about the concerns he had raised at the meeting about technical faults in handling of international comparisons of GDP in the Special Report on Emissions Scenarios that had been prepared as input to the IPCC's Third Assessment Report in 2000. Castles' concerns were essentially the same as those he had raised previously with the UNDP about its original Human Development Index: that they had used exchange-rate-based comparisons of GDP rather than PPP-based comparisons thereby drawing inaccurate conclusions. Castles duly wrote to Pachauri, and then suggested to Henderson that he also write in support, Henderson having become a collaborator with Castles over the previous seven years since they first met, particularly in commenting on the HDI. The technical issue raised by Castles and Henderson seemed in fact very material to the scenarios the IPCC was then highlighting. Exaggerating the differences in GDP between developed and developing countries at the beginning of the forecast period, together with assumptions of convergence in GDP across countries, meant that assumed global growth rates in GDP were also exaggerated. This implies important concerns about the reliability of climate change predictions. This flaw also resulted in exaggerated differences in energy and emissions intensities and meant that bridging those differences (which the scenarios assumed would occur) may represent a far greater task involving a much bigger and faster growth in global carbon emissions than would be revealed if appropriate comparisons of GDP had been made.

Pachauri not only rejected the Castles and Henderson critique but made a personal attack on the two. Subsequently, they began to question the whole IPCC process, observing the poor quality of many papers prepared by IPCC Experts and concluding that there were disturbing signs that the IPCC's role in the assessment of climate change had become subservient to its role in advocating a specific policy agenda. The two of them pressed for wider official participation in the process including by national statistical offices and the International Statistical Institute. Their comments to this time had focused on economic and statistical aspects of IPCC work, but concerns about the process as a whole drew them to engage with others who were criticising the professional conduct of some of the IPCC-related work on climate science. This led them to call for a broadening of the IPCC peer review process.

As Henderson explains, however, the extension of Castles' involvement beyond the original technical issue was not at all surprising. He had long been concerned about resource and environmental pessimism. However, to their surprise, as (eventually) economists were brought into the process, there was a marked division of opinion amongst them. Moreover, most were not willing to challenge the generally received opinion about 'the science' of climate change, including most of those who like Castles and Henderson were critical of the 2007 Stern Report. Henderson describes himself and Castles as amongst the 'dissenters' and sets out the three failings they saw in the wide array of material on climate change including from the World Bank and the IMF: over-presumption, credulity and inadvertence.

The *Castles* papers included in this section of the book include a criticism co-authored with Henderson (and others) of the Stern Review into the Economics of Climate Change. They are highly critical believing that the Review systematically over-states the costs of climate change by largely ignoring the scope for adaptation, underestimates the likely cost of the mitigation program that is called for, and proposes worldwide adoption of a specifically low rate of interest for discounting the costs and benefits of mitigation. This latter point is addressed by Mark Harrison's paper in this volume.

The other paper, 'Scientists, Statisticians and the Prophets of Doom' takes to task those in the science community who are more strongly committed to implementing their priorities than to the value of scientific enterprise. To achieve this he expresses special concern about a tendency to abuse critics (possibly with his personal experience of the IPCC in mind) and argues that if contrary views are unsound on scientific grounds, it should not be beyond the capacity of scientists to demonstrate this in free, critical and civil discussion. He also points out the tendency of some scientists to be prophets of doom with a prime example being the Club of Rome and their prediction that the world would not be able to feed itself. Castles highlights that economic growth and good environmental outcomes are not necessarily opposites. For example, the former may facilitate technological advances as well as allowing more funds to be diverted to environmental concerns.

Mark Harrison explores in some depth the challenge of balancing wellbeing over time, which is central to the climate change and other environmental debates. Harrison focuses in particular on discount rates and their crucial role in setting any carbon prices today in order to limit the costs of carbon pollution and climate change in the future. Given the many decades involved over which the impact of carbon pollution is suggested will occur, he demonstrates how much the choice of the discount rate matters – over 100 years, Stern's discount rate of 1.4 per cent a year leads to a carbon price today fifty times as high as Nordhaus's discount rate of 5.5 per cent. In his highly technical paper drawing on a wide range of economic theory, Harrison describes both a social welfare function approach to policy evaluation and an efficiency approach. The former requires normative value judgements or ethical considerations about the distribution of welfare within society while the latter is perhaps easier to apply in practice ignoring distributional issues and using cost-benefit analysis where willingness to pay measures the benefits and opportunity cost measures the costs. He then analyses how a range of climate change modellers determined their preferred discount rates and finds that they implicitly use the social welfare function approach, but mix ethical and empirical parameters and conceal assumptions. Harrison argues that the cost-benefit approach is to be preferred, where discounting is about opportunity cost and not about an ethical choice of the correct weight to apply to future generations' welfare, an approach he describes as 'prescriptive'. Harrison examines and rejects four 'myths' about discounting that have been used by the 'prescriptive' climate change modellers: that market discount rates imply sacrificing our grandchildren for a few dollars, that life should not be discounted, that high private sector discount rates are specific to the share market only, and that governments should discount with a risk-free rate of return. The low discount rates chosen by the modellers ignores the opportunity costs involved, directing resources away from projects known to have higher returns. Harrison considers that, if anything, efficiency analysis is more, not less, useful in an inter-generational context.

Jeff Bennett focuses on issues of sustainability and limits to growth, referring in particular to the 1973 Treasury paper largely credited to Ian Castles. He argues that concerns about 'sustainability' frequently fail to recognise the capacity of society to adapt. He discusses the concept of human adaptation and the wide range of ways in which humanity has demonstrated its 'amazing ability' to change to new circumstances. Adapting markets, prices, innovative substitutions and the discovery of new energy sources are all possible forms of adaptation to climate change. Bennett notes environmental improvement may, over time, follow economic growth, but that this relies upon an institutional framework that facilitates adaptation, including decentralised market processes and collective arrangements through government. Bennett supports the use of cost/benefit analysis applied by politically independent analysts to counter the dangers of collective arrangements being captured by sectional interests or being ill-informed, and to support appropriate adaptation. In this context, Bennett rejects the 'costs of inaction' argument often used to support immediate and substantial collective action because he fears it provides too many opportunities for rent-seeking behaviour. He suggests that many climate change policies will have negative impacts on growth without achieving their initial purpose, imposing an opportunity cost including by limiting opportunities to pursue policies more suited to effective adaptation.

The concerns Henderson highlighted that he and Castles shared about the quality of the received opinion on 'the science' of climate change was not explored further at the symposium, perhaps to the disappointment of Henderson but not entirely surprising given the absence of scientific experts. Nor was this a symposium of 'climate change sceptics' (and, as Mike Keating said in his speech, Castles should not be described as a 'climate change sceptic' either – another participant suggested he be described as 'agnostic' rather than as a 'sceptic'). The symposium comprised expert social science academics and practitioners most of whom felt more comfortable focusing on economic and social aspects of the climate change debate and the issue of how best to balance wellbeing over time including between generations. They focused therefore more on Henderson's concern that climate change policy should be based on proper economic and statistical analysis, whatever 'the science' of climate change suggested. There was certainly no disagreement with Castles' original criticisms of the IPCC and every sympathy about the extraordinary way in which his criticism had been treated, which left a continuing bad taste and unease about the IPCC's work.

The main focus of discussion was on the issue of discount rates, one of the core criticisms Castles and his co-authors had made about the Stern Report, criticisms equally relevant to the Garnaut Report. Harrison and Bennett's call for a cost-benefit approach was widely shared, with the implication that a higher discount rate than applied by Stern and Garnaut was required. Given the level of uncertainty, however, focusing solely on the discount rate might not be particularly helpful. A more practical approach might be to unpack the problem and consider a range of options against a range of possibilities. The options might include deferral of action other than investing money (with returns much higher than the Stern/Garnaut discount rates) for later mitigation and adaptation effort, or some modest effort now, perhaps involving more effort on research and on capacity for adaptation and less on setting a price for carbon. The emphasis should be on, as Castles often argued, a measured response to claims of impending crisis or doom, with a degree of optimism about society's capacity to manage future challenges. Whether current government policy is 'modest' or not was not discussed.

Certainly, there was wide agreement that restricting economic growth was not a sensible objective, though no doubt there remained different views on how to pursue growth and how to use the opportunities growth offered.

A critical issue for the academic community is the continuing lack of appreciation of the different perspectives and expertise offered by social scientists and natural scientists. The debates over the last decade indicate not only a lack of genuine engagement but also a lack of mutual respect. Castles had tried to address this as Vice President of ASSA. The recent initiative of the Council of Learned Academies to promote cross-sectoral research and multi-disciplinary approaches is therefore welcome.

Concluding remarks

There is still a perception in some quarters that economists push for economic growth without any appreciation of broader concepts of personal and society wellbeing, or the importance of future sustainability. This perception also leads some to typecast economists as social conservatives determined to maintain the status quo.

Castles constantly tried to change these perceptions, not by public campaigning but by careful analysis and scholarly exposition. He focused in particular on exploring and measuring broad concepts of wellbeing, examining whether and how economic growth can contribute to wellbeing, demonstrating how economists in the past have led many of the social reforms that underpin a more inclusive and free society, and showing by his own efforts as a professional public servant that economists can help governments of any political persuasion to achieve their particular political objectives more effectively and efficiently.

The Castles Symposium was, however, much more than a nostalgic *déjà vu* reflection on Castles' contribution. Participants certainly did, on the whole, endorse the majority of Castles' lifetime views, sharing his quiet passion for economics as a social *science* that can contribute much to good policy. But the symposium also brought past debates up to date and allowed participants to explore contemporary developments and challenges. In doing so, it drew out some substantial debates that need to be properly aired, as distinct from the shallow arguments based on common and continuing misconceptions of the role of economics and economists.

Hopefully, this book will help to disseminate a clearer picture of what economics can contribute, and promote more constructive debate of contemporary issues and policies that might advance society wellbeing now and into the future.

Perhaps, most importantly, the symposium re-affirmed the criticality of 'evidence-based policy' and the real dangers of 'policy-based evidence', celebrating Castles' constant emphasis on rigorous analysis of facts.