



IS AUSTRALIA PROSPEROUS?

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1 Introduction

This paper has been prepared to set the context behind a forum held by the Australian Business Foundation on 23 November 2005, on the topic 'Is Australia Prosperous?' This forum aimed to explore the character of Australia's prosperity, by questioning whether Australia's measurements of innovation, productivity, economic growth and wellbeing are adequate to a contemporary, interconnected, highly open economy.

This issues paper begins by discussing the conventional, sanguine view of prosperity, which concentrates on key indices of rapid and steady quantitative growth. (However, the increase in Australia's foreign indebtedness is also highlighted by some economists.) Next, Section 3 points out that even mainstream commentators acknowledge that the Australian economy is vulnerable to a number of structural problems, namely the stagnating effects of an ageing population, an inadequate labour supply in many industries, rising energy prices, and new competitive pressures from emerging economies. In Section 4, the paper considers an alternative approach to understanding prosperity, which regards continual and widespread innovation (i.e. economic development) as the precondition of sustainable prosperity. Section 5 covers some of the challenges of measuring innovative progress, while Section 6 concludes with some key questions to be probed in the debate about Australia's current and future prosperity.

About the Author

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As well as having written contributions in the fields of economic methodology, macroeconomics, industrial economics and the history of economic thought, Dr Steen brings several years of experience in teaching courses in economics, political economy, international business and industrial relations, at both postgraduate and undergraduate levels.

He has recently completed his doctoral dissertation entitled "Neomercantilist and Post Keynesian Approaches to State Intervention in Advanced-Capitalist Economies". A central focus of his thesis was to challenge the traditional view that discrete national economies ought to be the primary focus for public policy making.

About the Australian Business Foundation

The Australian Business Foundation is an independent business research organisation, founded in 1997. The Foundation's core purpose is to conduct rigorous research that advances knowledge and fosters new thinking and best practice on Australia's business competitiveness, prosperity and jobs. Its body of research over 8 years focuses on business innovation, new forms of competitiveness and opportunities from a knowledge-based economy.

Details of the Foundation's research can be obtained from www.abfoundation.com.au.

2 The Conventional Picture

The conventional picture of the Australian economy is one of sound 'fundamentals', with the possible exception of the balance of payments. This sanguine view of prosperity concentrates on key indices of rapid and steady quantitative growth.

Most economists agree that the Australian economy has enjoyed a period of uncommon steadiness and prosperity. 2005 marks the fourteenth year of economic expansion, with Australia's rate of growth of Gross Domestic Product (GDP) averaging nearly 4%. This expansion has been underpinned by record rates of productivity growth, which has consisted almost entirely of improvements in labour productivity (indicated by higher ratios of capital to labour and of output to total inputs) (Parham *et al.* 2000; Banks 2002; IMF 2005).

Additionally, Australia's most recent upswing has been accompanied by strong employment growth (3 to 5% in 2005) and the lowest unemployment rate in 28 years (5% in 2005). And while real wages have increased significantly, the simultaneous growth of labour productivity has steadied the growth of labour's share in GDP (although the distribution of income between *individuals* has become less equal). This means that profits have not been squeezed by the higher real cost of labour. Furthermore, firms in industries with high productivity growth have tended to lower their prices (relative to firms in other industries) and in some cases reaped a little more profit (Parham *et al.* 2000; IMF 2005, 1).

Accordingly, Australia's rate of inflation has remained low (the Consumer Price Index reached 3% this year, but the underlying rate of inflation remains at 2.5%), and consequently the Reserve Bank has been able to maintain its inflation target of 2 to 3%, without raising the nominal short-term (cash) rate of interest above 5.5%. Similarly, world long-term market interest rates are remarkably low, even in real terms (RBA 2005a, 51; 2005b, 19; Stevens 2005, 38f).

Another apparent indicator of Australia's prosperity is the low level of Federal Government net debt, which has fallen from 19.1% of GDP in 1995-96 to 1.3% in 2004-05 (Treasury 2005, 8). The Federal Government regards 'sound fiscal management' as the key to meeting its growing obligations, without imposing a heavy burden of taxation on future generations (Treasury 2002-03, 1). However, it should also be noted that balanced or surplus budgets are essential to securing the confidence of cross-border financial agents, who generally associate government borrowing with higher domestic inflation, and hence higher real long-term interest rates on instruments denominated in that government's currency (Eatwell 2000, 361ff).

Turning to the foreign sector, Australia's terms of trade (i.e. the ratio of export to import prices) have benefited from increases in the price of energy and raw materials. In the past two years alone, Australia's terms of trade have risen 24%, an improvement in stark contrast to other capitalist economies (Stevens 2005, 42). At the same time, Australia's current account deficit climbed to 7.2% of GDP at the end of 2004, before falling to (an estimated) 5.7% this year (owing to a narrowing of the net income deficit) (RBA 2005a, 33).

Conversely (and by accounting definition), Australia's capital and financial account for 2005 has been in surplus (i.e. the stock of Australian residents' liabilities to the rest of the world grew faster than their stock of foreign assets, so there was a net capital inflow). This financial account surplus proceeded mainly from issuances of external debt by financial institutions, with net foreign debt (which excludes equity instruments) measuring 50% of GDP, and net foreign liabilities (which counts both equities and non-equities) measuring 60% of GDP (IMF 2005, 2; RBA 2005b, 18).

Australia's persistently 'unfavourable' balances of international payments have traditionally been regarded as a severe obstacle to strong, long-run economic growth. This is why some commentators have been concerned to point out that the current boom has been accompanied by historically high levels of indebtedness. In 2004, the current account deficit reached the highest level since the early 1950s, predominantly owing to an increase in the net income deficit (which was in turn generated by the repatriation of large profits from resident mining companies to their foreign shareholders). And while the net income deficit has narrowed this year, it is evident that the underlying deficit has deteriorated. In the view of some economists, a worsening net income deficit will make it more difficult for Australia to stabilize its growing stock of net foreign liabilities, thus leaving it vulnerable to external shocks (Gittens 2005a; RBA 2005a, 33).

Other economists, though, attach far less significance to the balance of payments. They argue that inferences about national wealth cannot be made from the accounts themselves. For example, the balance of payments indicates neither the knowledge or employment effects of inward or outward foreign investment, nor whether these flows are 'autonomous' expenditures (i.e. outlays made with a view to gain) or merely 'accommodating' transactions (i.e. balancing entries made after the fact). And since the abandonment of fixed exchange rates and the development of cross-border derivatives markets, it can plausibly be argued that the financial account, and not the current account, is the operative component of the balance of payments (Schumpeter 1954b, 353; Bryan 1995, Chapter 7; Gittens 2005b). Indeed, some economists (notably Reich 1993) contend that cross-border flows of production and finance are now so transnational, that only the least mobile assets (chiefly labour) are amenable to nationally based accounting.

In this conventional picture, having sound economic 'fundamentals' typically is equated with prosperity. Even if this were the case, which is challenged in Section 4, Section 3 identifies emerging structural issues which may undermine future prosperity in Australia.

3 Impending Structural Problems

While economists differ sharply over the relevance of the balance of payments, they generally agree that the Australian economy faces considerable structural problems. These may impede or undermine the future prosperity of Australia.

An Ageing Population

In its *Intergenerational Report*, the Treasury stated that, assuming net foreign migration is 90,000 people per annum, the number of people aged 55 and over will grow faster than the number of people aged less than 55. This will lead to higher costs for the Federal Government (particularly in health and aged care, and social security payments, which, together with education, account for over half of Federal Government expenditure) and decreasing revenue (under current policy settings, the gap between expenditure and revenue is expected to grow to 5% of GDP). Consequently, if the state wishes to meet the demands of an ageing population without increasing the burden of taxation, it must foster a long-run economic growth rate of 1.75% (Treasury 2002-03; Taylor 2005, 6, 10).

Skills Shortages

In addition to augmenting government costs and reducing the taxation base, an ageing population will exacerbate the labour-supply difficulties presently found in industries characterized by high levels of early retirement, physically demanding labour, a poor reputation among young people and unpopular site locations (Noonan 2005, 8).

According to three participants in the *National Skills Forum* (run by the Federal Department of Education, Science and Training), demographic and industrial changes heighten the need for:

- superior literacy;
- increased pre-employment training;
- greater integration of vocational and tertiary education with firms' practices;
- better retention and recruitment of mature workers;
- a more appropriate gender balance at work and more family friendly work practices;
- a greater willingness to undertake part-time work among mature males;
- improved abilities in information and communications technology (ICT) across all sectors;
- additional skilled migration to particular industries, increased efforts to coordinate the skills of local workers with world's best practice and the operations of foreign-owned resident companies;
- training that is sensitive to environmental standards and consumer preferences;
- embedding regulatory requirements in standards and qualifications;
- a focus on the building up of capacities over immediate outcomes; and
- creating career paths for those who facilitate the systemic integration of employment and learning (Buchanan 2005; Noonan 2005; Taylor 2005).

Energy Prices

Another structural pressure on the Australian economy is the rising world price of energy. Benchmark oil prices have increased 40% since the end of 2004; the average oil price is now assumed to be US\$54 a barrel in 2005, US\$62 in 2006 (Stevens 2005, 42; RBA 2005, 15). According to the Deputy Governor of the Reserve Bank, higher prices for energy and raw materials are beneficial to those countries like Australia, which specialize in the extraction of resources (Stevens 2005, 42). He adds that: 'I suspect that the growing weight of resource-hungry Asia will mean that our terms of trade will be higher on average in the next decade than they were in the last quarter of the twentieth century' (Stevens 2005, 45). However, this assumes that Asian companies will continue to import from Australia at their current rate (cf. Maniruzzaman 2005). Furthermore, as the Deputy Governor himself observes, it remains to be seen whether the sustained increase in oil prices will generate cost-push inflation, and hence increases in interest rates (Stevens 2005, 45).

Rise of Emerging Economies

An issue still nascent at present is the long term structural impact on Australia of the rise of emerging economies such as China and India, even Brazil. The continued industrialization of these economies and the maturation of their consumption patterns is a topic yet to be explored in detail, but of an undeniably profound future impact on the global economic structure. Australia may yet be impacted in a net positive or net negative fashion over the long term; however, there seems little doubt that the change will be significant.

Thus, while conventional economic indicators suggest that Australia is indeed prosperous, they obscure several structural factors that bring into question the depth and durability of this prosperity. Accordingly, it is reasonable to consider a less conventional approach, which proceeds from different premises and looks to other indicators.

4 An Alternative Perspective

Prosperity is underpinned by broad and continual innovation

Since its inception, the Australian Business Foundation has promoted the view that business innovation is the driver of economic growth and development. This view has its origins in the analytic work of Joseph Schumpeter (1883-1950), an influential Austrian economist. Schumpeter drew a useful distinction between *growth*, or steady quantitative expansion, and *economic development*, or qualitative changes to production that disrupt business routines (Oakley 1990, 102f). Moreover, he stressed that incessant 'industrial mutation' or 'creative destruction' is 'the essential fact about capitalism'. This mutation consists in:

- the introduction of a new commodity, or a new quality of an existing one;
- the introduction of new methods of production or transportation;
- the opening of a new market;
- obtaining a new source of supply for inputs; and
- any form of industrial reorganization (Schumpeter 1954a, 83; Oakley 1990, 104; see also Marceau *et al.* 1997, 6).

Since Schumpeter wrote, his general propositions have been accepted by a growing body of economists, and confirmed by numerous empirical studies throughout the world. Indeed, in the decades following the lessening of cross-border trade barriers and capital controls, many economists have come to see innovation as the primary means of enhancing business competitiveness, national income and employment in the long run.

More specifically, prominent commentators on innovation concur that:

- the competitive advantage of firms (and the nations in which they produce) hinges ever more on the accumulation and application of knowledge, and ever less on the exploitation of given factor endowments;
- investment expenditure is increasingly being directed towards intangible assets;
- freer cross-border flows of trade, finance, foreign direct investment (FDI)¹ and research and development² are heightening the interdependency of firms;
- successful innovation commonly requires local concentrations ('clusters') of interconnected companies and institutions in specific fields;

¹ The UN defines foreign direct investment (FDI) as 'an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate)' (UNCTAD 2004, 345).

² 'The ABS defines research and development as systematic investigation or experimentation involving innovation or technical risk, the outcome of which is new knowledge, with or without a specific practical application, or new or improved products, processes, materials, devices or services' (ABS 2005).

- innovation fosters new services, which provide employment for significant numbers of workers;
- higher real wages and profits prevail in those countries that harbour innovative activities;
- governments play an integral role in providing the physical and intellectual infrastructure that makes sustained innovation possible; and
- innovation success and failure are cumulative, and governments cannot rely on market mechanisms to correct persistent trade deficits or to direct FDI to places where capital is scarce (see, e.g. Reich 1993; OECD 1995; 1998; Porter 1998; UNCTAD 2002; 2004).

Additionally, research commissioned by the Australian Business Foundation reveals that innovation is pervasive across all sectors; it takes place in medium-technology and low-technology sectors no less than high-technology ones. Professor Keith Smith has found that 35% of Australian firms (within all industries) are innovative, notwithstanding that Australia's manufacturing sector is dominated by low-tech industries. Indeed, high-tech industries account for only 3% of total Australian industries.

Nor is this result unique to Australia. Within Europe, the fastest growing sectors are low-technology. At the same time, Australia's research and development intensity (i.e. research and development spending as a percentage of sales) is 0.7%, which is less than half the OECD average and only one quarter of that of Finland (an economy comparable in size and openness). Professor Smith adds that Australia's poor research and development performance is not a reflection of its industrial structure; for it is weak precisely in those large, mature industries in which it specializes (Smith, forthcoming).

5 Challenges in measuring innovative capacity

In his report, Professor Smith takes care to point out that research and development is not an ideal measurement of innovative intensity. This is because innovation rarely proceeds in a linear fashion from scientific invention. Rather, innovation usually consists of tacit (i.e. untradeable) knowledge embedded in particular institutions and capital equipment. Not only that, innovation normally involves parties external to the innovative company, such as government departments, universities and research institutes (what Professor Smith calls the 'knowledge infrastructure'). Professor Smith therefore recommends that Australian governments:

- support those public institutions that facilitate the creation of knowledge within firms themselves; and
- promote financial instruments that reduce the costs of innovative investment (Smith forthcoming).

The inappropriateness of measuring innovative capacity chiefly by research and development was recently reiterated by a contributor to the *Financial Times*, who noted that was no correlation between research and development intensity and innovative success in industries that produce vehicles, consumer cleaning products and personal computer goods. He also cited a Booz Allen study of the world's top 1,000 corporate research and development spenders, which found no statistical relationship between research and development intensity and sales growth, gross profit, operating profit, enterprise profit, market capitalization or total shareholder return (Schrage 2005).

So a high level of corporate research and development is an inadequate measure of the business capacity to innovate. Equally, the level of research and development within a nation can be a misleading indicator of its residents' innovative capabilities. UN economists report that whereas companies incorporated in the USA and Japan conduct the majority of their research and development at home (and realize most of their sales there), this is not a representative trend. For example, data concerning patents taken out internationally (in the USA) by parent companies and affiliates, reveal that for smaller capitalist economies (e.g. Belgium, the Netherlands and Switzerland), the ratio of foreign to domestic patenting was over half in the early 1990s. Similarly, larger economies like the UK and Sweden had ratios of 56% and 42%, respectively, while Germany, conversely, recorded 21%. This compares with companies based in the USA, who performed 87% of their research and development at home in 1998, and those based in Japan, whose corresponding figure for 1995 was 97%.

Having said that, it is worth noting that cross-border research and development is overwhelmingly conducted within advanced-capitalist economies. Therefore, the level of research and development conducted by a nation's cross-border companies cannot be assumed to correspond to the amount of research and development (and consequent sales) that transpires in that economy (UNCTAD 2002, 19f).

The ambiguity present in national data about innovation (such as research and development) has prompted several researchers to focus on specific sectors, industries and non-national economic zones. For instance, in the Australian National University report 'No Simple Solutions' (in which the Australian Business Foundation was a partner), Scott-Kemmis *et al.* (2005) drew on a case study of seven Australian sectors, in order to capture cross-border influences that are often underestimated by studies of national systems of innovation. This is consistent with the analysis of Porter (1998, 25, 33), who defines competitive advantage in terms of industry-level productivity 'relative to best worldwide competitors', as well as the work of Reich (1993, 82-97), who contends that firms in advanced-capitalist economies form transnational 'webs of enterprise', which compete by developing and modifying technologies for niche markets. Nonetheless, all these authors reaffirm that the institutions and policies of nations are critical to the

attainment of private competitive advantage (Reich 1993, Chapters 13, 20-24; Porter 1998 xxi-xxii, 19; Scott-Kemmis 2005, 2; see also Smith, forthcoming; Roos *et al.*, forthcoming).

Evidently, moving beyond measurements of quantitative growth (which is what conventional indicators capture) and towards measurements of advanced economic development, poses difficult problems for analysts, policymakers and business people. The Australian Bureau of Statistics (ABS) notes that: 'There is no internationally agreed framework for measuring the extent to which an economy or society is knowledge-based' (ABS 2002, Preface), and goes on to propose a framework with five dimensions. Three of these are designated as 'core' dimensions:

- innovation and entrepreneurship (which includes the potential for knowledge creation and commercial research, the degree of knowledge sharing between firms and nations, and the creation of new firms);
- human capital (which includes the stock and flows of skilled people, expenditure on education and training, and access to lifelong learning); and
- ICT (which includes ICT infrastructure and access, the use of ICT by households, business and government, the prevalence of electronic commerce, and the share of ICT workers in the labour force).

The two 'supporting' dimensions are:

- 'context' (i.e. macroeconomic performance indicators); and
- 'economic and social impacts' (i.e. measurements of social cohesion, demographic patterns, health status, crime levels and income distribution) (ABS 2002, Chapter 4).

What is notable about the ABS framework is that it considers the close connection between the social and economic factors which make up a national innovation system. In a forthcoming report for the Australian Business Foundation, Professor Göran Roos *et al.* maintain that Australia lacks the sort of systemic linkages between researchers and potential users of research, which have made the Finnish and Swedish national innovation systems so effective. In particular, there are often:

- poor or non-existent collaboration between researchers, government and industry;
- little coordination between government departments;
- an inability on the part of most small-to-medium enterprises to absorb new technology;
- low commercialization of public sector research and development (cf. DITR 2005);
- insufficient priority given to long-term funding, and
- an inadequate managerial commitment to innovation and weaknesses in managerial style and capability.

In light of these problems, Professor Roos *et al.* recommend that Australia:

- develop regional innovation systems;
- ensure that all parties to the innovation system are represented;
- remain flexible in its policy stances;
- adopt international benchmarks; and
- support local ventures.

To recapitulate: innovation does not merely involve scientific research and high-tech activities; it entails a range of economic and social elements, and their effective interaction. The challenge for analysts, policymakers and business people is to understand and foster those systemic connexions that heighten the conditions of lasting prosperity.

6 Is Australia Prosperous? Some Thought Starters

Against the backdrop of the foregoing, we can identify several questions that are immediately relevant to gauging how the Australian economy is performing now and how it is likely to perform in the future.

These questions were central to the Australian Business Foundation's Forum of 23 November, 2005: 'Is Australia Prosperous?'

The aim of the Forum was to advance understanding of the most useful and accurate measures of Australian prosperity, to convey what current indicators and statistics tell us and to reach conclusions about new more potent measures we may need to monitor in the future.

Question 1: How can we reasonably measure Australia's performance as a small, open and knowledge-based economy?

In the foregoing discussion, conventional measures of economic performance were seen to concentrate on quantitative growth rather than qualitative technological and institutional change. How can we better detect in advance the structural adjustments that will prove to be necessary in the future? An emphasis on the terms of trade, FDI or employment is not sufficient, as they do not indicate the skills or knowledge content of those flows. Again, it was argued previously that measuring innovation beyond invention is required to understand and harvest the true utility of technological change. But how can we transcend the limitations of traditional R&D, patents and technology data, in order to estimate the broader aspect of innovation; namely the extent and effectiveness of business transformation?

Question 2: How can we measure the labour force qualities and skill requirements of an internationally competitive, innovative economy?

The foregoing discussion also highlighted concerns about ageing and skill shortages that have entered mainstream debates. We also noted that Australia's current upswing has been underpinned by robust productivity growth. Nonetheless, conventional indicators tend to obscure the innovative basis of sustained productivity growth; that is, the particular work and educational skills that form part of an effective national innovation system. Additionally, standard debates give little acknowledgement of the changing nature of work and the aspirations of a future workforce defined by Generations X and Y (rather than the children of the Great Depression and the baby boomers). The unemployment rate is narrow-minded at best as an indicator of the success of labour market policy, so what would better indicate whether or not best use is being made of Australia's potential workforce? Does the current work reform debate adequately address labour force and skills issues for a small, innovative economy subject to robust international competition?

Question 3: What sort of indicators of prosperity should we consider in addition to national income?

This paper has focused on economic growth and development, but these give only a partial indication of prosperity and no thorough measure at all of wellbeing in the community. Indeed, short term prosperity, however defined, may prove to be profoundly unsustainable if achieved by inappropriate means. So, are there robust measures of environmental management, sustainable business growth and development, work life and social wellbeing, and other matters of significance to the future prosperity of Australia? What are the most productive roles of government and business in developing and delivering against such measures? What is the future of the 'Triple Bottom Line'?

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