A NEW generation OF policy questions

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Australia's recent economic performance has been, on most measures, outstanding. After such a protracted period of exceptional results it may seem churlish to begin searching for new ways to speed up growth. But it is arguably best to search for new policy improvements before medium-term economic growth slows. Seasoned observers, notably the Governor of the Reserve Bank, have wondered out loud if there is not the need for a new impetus.[1] Saul Eslake, Chief Economist of the ANZ Bank, has been more explicit. He has charged the government with wasting the windfall revenue gains from the resources boom. *The Economist* recently concluded: "Without further policy reform, the Australian kangaroo risks turning into a sleepy koala" (*31 March 2007, p. 74*).

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This year's *World Competitiveness Yearbook 2007* also emphasised Australia's long-term economic development challenge. Out of 55 countries, Australia scored poorly on a number of economic infrastructure measures, including Internet costs (42nd), mobile telephone costs (38th) and availability of various types of skilled labour, such as qualified engineers (40th). It ranked only 12th for education, 20th for scientific infrastructure and 21st for technological infrastructure. Overall, Australia ranked 16th on economic infrastructure, just up from 2006's 17th position.

The need to renew Australia's economic reform program was emphasised in CEDA's earlier studies of *Innovating Australia* (*Growth* 53) and *Infrastructure – Getting on with the job* (*Growth 54*). These reviews suggested that the current microeconomic reform agenda has realised the majority of its potential gains. Most of the policy changes associated with deregulation have been implemented – indeed, our recent performance testifies to their cumulative impact. But different, or additional, policy frameworks have been adopted in other relatively small, resource-intensive and open economies, such as Denmark, Sweden and Finland, and their economic performance has equalled and, more recently, surpassed, that of Australia. To the extent that policy influences outcomes, it is hard to argue that Australia's current strategy is the only or the best approach – or that it exhausts what might be done.

This consideration is reinforced by the papers in this current collection. Save for one contributor, they all advocate a renewal of policy reform. However, their recommendations vary. They approach the need for a fresh policy effort from three overlapping (and potentially complementary) perspectives: one perspective draws on the features of our general economic circumstances, including new interpretations of the "tyranny of distance" and the recent deterioration in our export performance; a second approaches the need for new policy effort from the perspective of innovation; and a third is taken from the perspective of the role of MNCs in global trade and R&D.

Deregulation and micro-economic reform involve what might now be seen as the first wave in the internationalisation of the Australian economy. But they do not end the story. This first phase was powerfully based on

paradigms drawn from neo-classical economic theory. The basic idea was that domestic and international economic arrangements should, as much as possible, use unfettered markets. In this perspective, exchange and coordination are best achieved through arm's length price mediated transactions. Some also argue that this is the best path to growth and dynamic efficiency. And some argue that, even in cases of market failure, interventions by governments are likely to produce third-best or worse outcomes. This is because of the risk of relevant programs being captured by favoured interests. Australia's recent success in rolling back protectionist and other regulatory frameworks would seem to call this latter argument into question, at least as an unqualified generalisation.

More generally, in a neo-classical perspective, market forces will drive down costs to an economically efficient level and market exchanges will allocate resources and people to their most productive uses. In Australia's case, the elimination of tariffs, the floating of the exchange rate, the introduction of a vigorous competition regime and, most recently, labour market reform, have all drawn on this theoretical tradition. Of course, the idea that market signals could carry the entire policy load was acknowledged as a gross simplification even by the market-oriented reformers of the 1980s and 1990s. In practice, market failure was widely acknowledged. In response, a variety of subsidies and incentive payments have been maintained. On some issues, coordination of activity or allocation of scarce resources has been orchestrated through governance rather than markets.

Transaction costs were also recognised as a critical determinant of performance, costs that are often no less important than direct production costs. Hence widespread programs of privatisation and commercialisation were introduced, particularly involving public utilities. In general, Australia's transformation in the post-1983 period was a remarkable episode of national policy change. In just over a decade, policies, frameworks and approaches that had guided national economic development broadly since 1909, were completely jettisoned.

Unfettered markets remain critical in efficient resource allocation and ensuring that competitiveness is not hobbled by transaction costs. But other approaches merit assessment at this point in the reform process. Concern over Australia's level of global engagement is just one factor driving a fresh look at policy. Another factor is the potential shift in industry structure that will result from an extended period of high commodity prices, a shift explored in a notable recent speech by Treasury Secretary Ken Henry[2].

In addition, theoretical perspectives that complement, and in important respects qualify, the neo-classical approach to "best" strategies for building performance have also emerged in recent years. They offer grounds for thinking about policy needs, instruments and settings that encompass, but extend beyond, market failure. Because some grounding assumptions cut across those in the neo-classical framing, these newer paradigms present particularly acute problems of assessment and evaluation. One perspective involves the international economy – and argues for the importance of multinational corporations (MNCs) as primary gatekeepers in the international trading system. This analysis, based in political economy, notes that some two-thirds of world trade passes through MNCs, either directly or via supply chains. These transactions are far from the textbook model of arm's length, price mediated exchanges. Further, approximately one-third of private R&D is conducted by MNCs. States can seek to create infrastructures and capabilities to attract this activity in the same way as they now seek to entice MNC investment.

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The second more recent theoretical paradigm concerns innovation – and recognises the role of collaboration and linkage in driving superior performance at the firm level. This framing holds the potential to change a number of current approaches to economic management (see e.g. Lipsey, Carlaw & Bekar, 2005). Innovation strategy in Australia is currently primarily based on a linear, science-push conception of the process.[3] This continues to be relevant. But science-based industries account for a tiny proportion of overall economic activity, generating proportionately very little employment or investment. They remain small proportions even of economies such as the United States, where high-tech sectors are largest and most robust. In fact, most innovation occurs in established manufacturing and service industries.

The most challenging aspects of innovation theory concern the role of the state in facilitating upgrading and continuous knowledge development in these established areas of activity. There is at least one classic and home-grown example of this approach, involving the Australian wine industry. As its performance illustrates, collaboration around knowledge development can yield outcomes superior to those available from the operation of market forces alone, with the important proviso that this needs to work with the grain of markets. But the very success of this industry invites attention to the unique capabilities and knowledge infrastructures it has developed, and to the contribution of federal and state governments to these outcomes.

All three segments in this collection of papers raise fresh questions about the strategic and catalytic role of governments in facilitating economic activity. As already

noted, those in the first part propose a new salience for communications, transport and educational strategies and for export development. Meantime the papers concerned with innovation and MNCs present, if anything, deeper challenges to current policy settings. All these issues are currently being considered by Australia's federal and state governments – with, it must be said, conspicuously variable energy. This collection asks if their significance and/or implications are being adequately recognised.

The first part of this collection looks at the implications of the recent deterioration in aspects of our economic performance. In particular, the impact of geographic location on trade performance and the implications of recent developments affecting the external account are explored. A recent Treasury review suggests that, allowing for the impact of distance, Australia's export performance in manufactures and services is actually above what might have been expected from a country of our economic size and geographic location. Glenn Withers endorses this approach and cites work that suggests the impact of distance, far from diminishing, is actually rising. This licenses fresh attention to policy settings. In deciding what strategies are appropriate, Withers suggests we need look no further than those which framed the very high levels of prosperity that marked the latter part of the nineteenth century:

> … Australia has done poorly at lifting its export performance since 2000, but Australian companies have done very well at integrating themselves into the global economy through foreign direct investment.

It is little known and little understood that Australia's earlier achievement as world's best practice by 1890 sprang not just from the luck of possession of natural resources. It was also the result of having the most skilled, educated and urbanised work force in the world and the most innovative populace. Australia spent more on education across more of its people than any other country; it chose its migrants carefully for their skills and it had the highest per capita patents of any country.

The need now is to augment the policy framework. Withers suggests a wide-ranging agenda aimed at augmenting human and knowledge capital. Attention to communications technologies and transport corridors is also an imperative. More generally, domestic fertility and skilled migration both need to be emphasised. Family-friendly policies that allow women (or men) to link career and family development need to be instituted.

In the second paper, John Edwards presents both a comprehensive assessment of recent developments affecting Australia's trade and investment and an evaluation of their longer-term policy implications. In a nutshell, Australia has done poorly at lifting its export performance since 2000, but Australian companies have done very well at integrating themselves into the global economy through foreign direct investment. His assessment of recent developments involves a detailed analysis of trends in the various categories of goods and services exports.

Export volumes grew by 56 per cent in the six years to 2000. Since 2000, they have grown by just 9 per cent – a remarkable and unexpected slowdown. Most of the slowdown in export volume growth is due to the downturn in the rate of growth of rural exports, oil, metals, gold, and services, including higher education and overseas tourism. Roughly half the decline in the rate of growth is attributable to a decline in the rate of growth of minerals, metals and energy exports, a decline disguised by rising prices for key commodities, notably iron ore and coal.

How can Australia improve its export performance again? While overseas demand for education and tourism has had some impact, Australia's challenge in areas such as metals, energy and minerals is to improve its ability to supply. While the mining investment boom in the three years to 2006 will likely result in higher export volumes in coming years, supply constraints are a relatively new challenge for Australia. We need concentrated effort to remove infrastructure bottlenecks; to build additional infrastructure to meet expected demand; to educate, train and retrain Australians so as to increase the supply of skilled workers; and to support innovation.

While export volume growth has flattened, exactly the opposite has happened to Australia's outward direct investment. Australian foreign direct investment (FDI) abroad has almost caught up with FDI in Australia.

Why has this happened? The typical Australian firm investing offshore is one that has been successful in Australia but outgrown the relatively small home market. Offshore investment reflects specialisation rather than size. The typical successful business has intellectual property, marketing and management skills and a business concept that has been successful in Australia and can be replicated elsewhere.

The second part of this collection explores the meaning and policy implications of innovation. This part consists of three papers. Roy Green introduces the discussion. He provides an overview of this activity, which essentially entails the application of knowledge and creativity to add value to products and processes. Higher

resources income, such as that delivered to Australia by the rise of China, can be dissipated in sustaining current prosperity – or used to enhance longer term economic sustainability. Green suggests that Norway and Finland have adopted approaches that do the latter, and he proposes that Australia learn from their experience. At the most general level, this requires much more investment in human knowledge and infrastructure – both of which have declined in recent years in Australia.

In categorising the scope of innovations, Green distinguishes between "sustaining" (or incremental) and "disruptive" change. In each of these major categories, innovation could involve one or a combination of three elements: technological change, organisational change and institutional change. Meantime, much current policy in Australia is concentrated on disruptive change (via science-based conceptions of innovation) and aimed only at its technological dimension. This remains important, but it is far from the whole story. Australia's relatively low spending on business R&D is often attributed to the high proportion of low-tech industries in our industry structure. Green disagrees, arguing that "… this justification ignores the importance of R&D in mining and agriculture, and of innovation more broadly in 'low-tech' activities and services, where 'absorptive capacity' for externally sourced technologies and skills may be the driver of competitive advantage …". He notes that on the broadest possible definition only 35 per cent of Australian firms acknowledged making an innovation in the 2001–03 survey period.

Drawing on a global survey, Green explores the less widely recognised role of organisational and institutional innovations. The importance of institutional stimuli to innovation is emphasised in a recent IBM survey: "Extensive collaborators outperformed the competition in terms of both revenue growth and average operating margin." Green concludes with a detailed review of Australia's innovation system. He emphasises that innovation is naturally not a task for governments alone. But he notes the lamentable decline in public spending on higher and vocational education, despite political rhetoric vaunting individual skills and capabilities. More broadly, and at a strategic level, he laments the absence in Australia of any overarching commitment, conceptualisation or vision. Government has failed to lead the development of public or stakeholder opinion. Because implementation requires extensive new linkages and engagements between public and private sector actors, he argues, government has an unavoidable and quite novel leadership role in the innovation field.

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In the second paper in this group, Keith Smith outlines the framework for a comparative study of approaches to innovation in a number of resource-intensive economies. These are countries which all resemble Australia in the importance of their resources sector, but which all have a high resource dependence associated with strong manufacturing and/or services activity. Indeed, some of the richest and/or fastest growing economies are resource-based – Norway, Sweden, Finland, New Zealand, Canada, Australia and the Netherlands. This is in contrast to an influential strand of economic theory that argues natural resource endowments can be a "curse".

This "resource curse" is said to arise as a result of impacts on the exchange rate, precluding the development of other activities. However, Sweden, Finland and the Netherlands, all resource-intensive economies, have also all developed high-tech sectors that have supplemented their much more extensive engagement in low- and medium-technology activities, allowing them to remain high-productivity nations.

In explaining this achievement, Smith focuses on how impacts from initial resource developments ramified serially through three broad phases: initially, there was significant investment in knowledge upgrading in resources-based industries, followed by other flow-on consequences as resource activities leveraged the development of downstream industry and services. In a third phase, a further round of opportunities developed from the extensive and deliberate use of knowledge infrastructures to drive knowledge creation in other sectors. Smith refers to the development of "vertical clusters" extending up out of the resources sectors into manufacturing and services. Smith concludes that if the detailed path by which the cited resource-rich countries progressively transformed their natural endowments into vibrant secondary and tertiary sectors remains obscure, so too is the path by which these outcomes might be preserved and magnified. These questions – and processes – have special salience for Australia.

The third paper in the segment on innovation is by Thomas Barlow. He reviews recent changes in policy frameworks designed to aid innovation. To highlight their impacts, he also reviews data about relative changes in Australia's business structure. This emphasises the growing importance of services in the Australian

economy with property and business, finance and insurance and communications services all growing at much faster rates than manufacturing. This also partly reflects the very substantial new linkages between manufacturing and services. Barlow then turns to consider the patterns of innovation actually occurring in Australia. He argues that our characteristic approach (and strength) involves what he terms "systems integration". This involves "a style of innovation that is relatively high level, that is typically generalist rather than specialist, that is focused on systems rather than products, and that involves combination and modification of existing technologies rather than the creation of new technology."

Evidence for the predominance of this approach is to be found in fields as diverse as mining, construction and event management. A practical example in yet another area is Westfield's success in shopping malls. In all of these cases the "product" is different in each version, but a creative solution, based on systems integration, is the common element everywhere. Barlow points to the growing place of software expenditure in Australia's total business R&D spend as further evidence of this shift in Australia's characteristic approach. Indeed, information and communications technology (ICT) developments provide a particularly strong reinforcement of the thesis. Between 1985 and 2003, only Finland and Korea showed a greater increase in ICT as a proportion of gross fixed capital formation. The beneficiaries of this investment in Australia have been wholesale and retail trade, finance insurance and the business services sectors. System integration also characterises the approach of companies in fields such as Australia's growing biotechnology sector.

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Barlow argues at more length elsewhere that he sees this as the characteristic strength of Australians in their approach to innovation.[4] And, contrary to other contributors in this collection, he concludes that where innovation is concerned, current policy settings are about right and further effort is best left wholly to decisions made in the marketplace.

The final group of two papers considers the role of MNCs, both as integrators of international production systems and as the predominant patrons of R&D. Andrew McCredie introduces the discussion by reflecting on their global role, as well as on the engagement in trade by Australian firms. MNCs undertake two-thirds of world trade. The top 1,000 MNCs direct 90 per cent of FDI and they undertake the bulk of world business expenditure on R&D. They have adopted new business models which need to be factored into policy thinking. According to Marc Singer (a Principal in McKinsey's Silicon Valley office):

In the industrial age companies were built on the principle: "Do more and do it cheaper." The means were vast scale and scope as well as rapid internal control. In the information age the watchwords are "fewer, faster, less" – fewer assets, faster growth, and less activity managed under one roof. These are the features of the networked organisation, a business model that may forever change the way companies compete … Brought into existence by declining transaction costs, tightly linked supply chains, and Internet-based ordering platforms, these companies have devised a mode of interaction among themselves, their business partners and their customers that promotes … collective learning in the organisation, especially how to coordinate diverse production skills and to integrate multiple streams of technologies.[5]

These linkages, while geared to cost reduction as in the Toyota "learning by doing" buyer–supplier model, are nevertheless far from the arm's length, price mediated exchanges of the international trade textbooks.[6]

McCredie illustrates the new patterns of outsourcing with examples from the vehicle and constructions sectors. He argues that, for a country of our economic size, relatively few companies are engaged in trade. For example, only just over 4,000 companies exported more than $1 million of goods or services in 2005–06. He further suggests that Australia's distance from major global centres is no ground for complacency. In deciding how to develop trade, policy needs to focus on the role of MNCs in both global trade and R&D. The structure of Australian industry is also a pertinent fact: Australian industry is dominated by SMEs, which may lack the ability to respond as needed to MNC demands.

In relation to R&D, he notes that major MNCs are establishing research nodes where they find complementary research or other capabilities, or where these can contribute to longer term market access and development. According to a 2005 UNCTAD survey, Australia is ranked 16th out of 26 countries as a location for MNC R&D activity. As a *prospective* location its ranking has fallen a further two places to 18th. Such perceptions are largely socially constructed. Others are deliberately targeting R&D. This does not currently figure in Australia's policy repertoire.

McCredie also explores the significance of Australia's increasing offshore FDI. He notes that were the income from these investments to count as an export, it would be third only to coal and iron ore. He concludes with a series of policy recommendations, starting with an effort to build understanding and overcome information deficiencies among MNCs. The large number of MNCs already located in Australia provide a primary potential source of intelligence about the requirements for connecting local firms to their international parent supply chains. A similar intelligence opportunity exists in relation to attracting R&D. Similarly, Australian firms need to be encouraged to see supply to global chains as a path for business growth. Programs may be needed to develop capabilities for and reduce the risks of these engagements. Finally, Asia may present special opportunities. The number of regional MNCs is multiplying and there would appear to be many potential complementarities between Australian capabilities and their needs. But once again, more intelligence and a deliberate strategy may be required.

The final paper, by John Houghton, also explores the changing role of supply chains in the global economy and the requirements for enhancing the participation of Australian firms. His analysis reinforces that of Andrew McCredie. MNCs now dominate trade and their global outsourcing creates a new context for firms seeking to grow through international engagement. Houghton reviews trade data that not only illustrates Australia's relatively poor trading performance but also suggests the scale of the disconnection between local manufactures and services and global supply chains. The metrics include trends in our share of IT-enabled services exports, intra-industry trade as a share of total manufacturing trade, Australia's share of foreign R&D locations, and trends in export market shares for both goods and services. In all these cases we rank in the lowest deciles. Echoing the judgements of other contributors to this collection, Houghton concludes that our potential as a goods and services exporter depends above all on the development of education and skills, ICT infrastructure and on the ability of local suppliers to link into global production systems and offer appropriate cost-effective solutions.

In general, the contributors to this collection urge the further development of government policies aimed at increasing the international engagement of Australian firms. The policies they variously propose pose challenges of varying degrees of difficulty. The proposals to build education and training investment, lift communications linkages and emphasise export development, important and far-reaching though they are, present the fewest difficulties. All these recommendations are consistent with current policy frameworks and approaches. They would represent a realignment of priorities and involve more spending, but they do not present any fundamental challenge to overarching orientations.

Proposals to deliberately foster the links between Australian firms, particularly SMEs, and MNCs involve a higher order of policy difficulty. This would represent a considerable extension of present approaches.

However, innovation as discussed here represents the most challenging of all these proposed fresh approaches. Currently national government strategies are largely focused on a science push view of this activity. The challenge of adding a substantial demand-driven component that is focused on established services and manufacturing sectors is far from trivial, and far from a simple extension of current approaches. It could involve such higher order activities as formulating a general vision that is ambitious, plausible and capable of inspiring effort. It could involve a variety of sectoral activities that might be stimulated by governments but realised through relevant industry associations and/or groups of firms. For example, clusters of firms might be encouraged to set goals and targets, but in a frame that allows revision and adaptation as experience accumulates and contingencies unfold. In other words, it would involve engagements at a sectoral level that cuts across present hostility to selective interventions and discriminatory approaches. But the forms of engagement would also be novel – based on information and incentives to identify opportunities and to set ambitious goals and targets and reward designated achievements rather than non-discriminatory regulatory or financial inducements.

Such activities pose considerable challenges both to the state and to business. For business, collaboration can be very complex and demanding to establish. For the public sector, the risks of capture would need to be deliberately countered. Fortunately there are abundant examples of successful approaches in other states. Perhaps the biggest challenge concerns the degree to which such approaches cut across current orthodoxies about the role of the state and the relationship between public and private sectors which are championed by Australia's political and bureaucratic elites. Concepts of partnership and collaborative engagement are currently generally discounted. They are the exception. Similarly, while ministers gesture to "joined up" approaches, practice shows only a few examples of effective concerted effort. Evolved forms of innovation strategy explicitly take account of the linkages between industry policy and education, migration, communications, infrastructure and social policy. Such holistic approaches are barely evident in the Australian policy system and, particularly where there is overlap between federal and state governments, often thwarted by make-believe political combat.

In other words, the adoption of innovation policies as envisaged by some of the contributors to this volume would represent at its furthest not just the evolution of current approaches, but a major shift towards a more active industry policy. As noted in the earlier papers, appropriate approaches are well developed in other coun-

tries, notably the Nordic block. However, policy transfer is never merely straight copying and is always problematic – local conditions and circumstances, including political factors, necessarily obtrude. This is as it should be.

In sum, the challenge in re-crafting Australia's policy frameworks to lift international economic engagement to a new level could be unpacked in several different ways. The possibilities extend from shifting to new priorities within present broad orientations to the adoption of new policy approaches, instruments and settings. The achievements of the past couple of decades show what determined and focused leadership can accomplish. The next phase, whatever its components, requires a renewal of motive and energy, and a fresh engagement with goals, means and purposes.

ENDNOTES

1 Evidence, 21 February 2007, House of Representatives Committee on Economics, Finance and Public Administration.

2 Managing Prosperity, Speech to the *National Economic and Social Outlook Conference*, 2 November 2006.

3 Marsh & Edwards (2006) review the Innovation Summit as an exercise nominally positioned as an assessment of alternative conceptions of ways to promote innovation. They conclude this was ultimately an elaborate exercise in outreach, basically designed to legitimise largely pre-determined positions. This has since locked Australia's innovation strategy into a linear, science-push view of the process.

4 Barlow, 2006.

5 Singer, M., 2001.

6 See also Charles Sabel, 1994, Learning by monitoring: the institutions of economic development, in N Smeltser & R Swedborg (eds) *Handbook of Economic Sociology*, Princeton University Press, New Jersey.

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