

Alternative Futures — Scenarios for Business in Australia to the year 2015

scenarios

REPORT FROM GBN AUSTRALIA FOR
THE AUSTRALIAN BUSINESS FOUNDATION

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This has been a team effort in defining the scope of the project, stimulating divergence on the major issues and facilitating their convergence in the scenarios themselves.

I would like to specifically thank my team for their untiring enthusiasm and hard work — and in particular, the work they have done in writing the scenarios from such a diverse range of inputs.

In particular, authorship of the scenarios, scenario summaries and scenario stories is acknowledged as follows:

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Preface

The project on Alternative Scenarios for the Future of Business in Australia is the brainchild of the Australian Business Foundation, an independent private sector think tank.

The Australian Business Foundation exists to strengthen Australian enterprise through research and policy innovation. It does this by conducting ground-breaking research, which it uses to foster informed and well argued debates and imaginative policy solutions and initiatives.

This scenario building project for the future of business in Australia to 2015 is the latest example of the Australian Business Foundation's fresh approach to research, using the specialist expertise on futures and scenarios of GBN Australia.

The Australian Business Foundation has chosen the tool of scenario planning to help make sense of how the future could pan out for businesses, and to assist all those involved to anticipate and adapt to change, whether it is an unpredictable external shock or an as yet unimagined new opportunity.

The critical questions the Australian Business Foundation wanted this project to address were:

- what are the alternative, plausible scenarios for the future of business in Australia? and
- what are the most robust strategies, based on these scenarios, that maximise our ability to generate wealth and jobs, to integrate into global markets and to contribute to a rising standard of living for the Australian community as a whole?

The alternative plausible pictures of the future for business to 2015 documented here have been developed through a process which has included:

- sampling opinions and current literature on the likely drivers of change and critical uncertainties for business in Australia;
- desk research, literature reviews and media monitoring;
- interviews with experts and other 'remarkable people' for their insights on the future;
- analysis and commentary from a range of business, social and educational specialists, including GBN's international colleagues;

- three scenario-building workshops, involving over 40 individuals from diverse walks of life and areas of interest; and
- a series of interviews and focus groups around Australia to 'test run' and verify the emerging scenarios, including groups of business people, school children and tomorrow's political leaders.

Fashioning these alternative scenarios is just the first step. The intention is to provoke reactions and thoughtful commentary from the widest possible range of audiences throughout Australia.

People are asked to reflect on three key questions:

1. How robust or at risk is Australia, given these scenarios?
2. What are the critical responses Australia needs to make?
3. What do you and your sector/business/organisation/community need to do?

The Australian Business Foundation, in initiating this alternative business scenarios project, sought to achieve the following:

- Add more substance to our knowledge about possible futures for Australian business and so enhance our ability to create a more prosperous Australia with benefits for all.
- Dramatically expand the debate and the mindsets about the best economic and industry policy settings needed for Australia to compete globally.
- Provide business with more knowledge to underpin their risk management and strategic planning decisions and their assessments of opportunities for new markets, technological advances and further market penetration.
- Contribute a thoughtful and cogent business perspective to dialogues in the media and the wider community about the kind of society we want to create as we approach a new century and a new millennium.

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Introduction

Looking into the future, the one thing we can predict is that there will be change — great change, in all areas of our work and social lives; in the way we organise nationally, globally, socially and politically; in the technologies that have and will continue to fundamentally alter the way we do things and the things we produce; in the bases of competition in industry and commerce. To what extent can we foresee these changes? And what, if anything, can we do, now and in the coming years, to build the kind of future that we want?

Why scenario planning?

Scenario planning is a tool used by many businesses to develop creative responses to existing and future challenges. This Alternative Business Scenarios project is about looking beyond the bottom line, beyond the end of the next financial year, beyond the annual report to shareholders. It is about Australians, and especially those involved in business in Australia, engaging intellectually with possibilities for the future, and coming up with responses that can shape that future.

This project was not undertaken with the aim of removing doubt, nor of predicting the future, nor even of wanting to 'get it right'. Rather, it was designed to help those involved with business in Australia — governments, investors, consumers, the young, educationalists, families and employees — to think more deeply about the role of business in Australia's future and to create sustainable strategies for business and social success. These scenarios on alternatives for business in Australia focus specifically on building views of the future which address the question: *what can we do to maximise our ability to generate wealth and jobs, to integrate into global markets, and to contribute to a rising standard of living for the Australian community as a whole?*

The process

Developing the scenarios involved research, consultation, analysis and commentary from a wide range of business, social and educational specialists. The scenarios were many months in the making and represent the distillation of material gathered through media monitoring, literature searches, research, opinion sampling, interviews with experts and focus groups.

To answer the question posed above, a key step was identifying the 'drivers of change', both for Australia and globally. Once these drivers had been identified,

we could then move on to look at how these drivers might affect Australia into the future (in this case, 15 years into the future). This brought us to an examination of the four scenarios presented here, and hopefully the development of new ideas and approaches which can enable Australia as a community to achieve not only the most productive future for business in Australia, but the one that delivers the greatest benefits for all Australians.

Drivers for change

In undertaking this project, we considered many trends, forces for change and critical uncertainties: the 'drivers for change'. These are both factors which are operating now and those which are foreseeable over the next 15 years.

Australia as a taker rather than shaper

In global terms, Australia is a fringe dweller, and there are many drivers for change about which Australia is powerless. We do not have the power, for example, to choose whether the internet will be globally regulated, or if there will be a global agreement on biotechnology, or even to direct the pricing of commodities of which we are a major world producer. In many sectors we do not have any companies with the size, reach and capital required to make the enormous investments necessary to bring many of the new technologies to market.

These factors introduce many complex uncertainties to the analysis, mainly in the geopolitical arena, but also in the areas of organisation and location of global enterprise, positioning of economic power in the newly rearranged value chains and access to commercial advantages of new technologies.

Globalisation and economic reform

As the scenarios suggest, critical uncertainties can be anticipated for Australia at home and abroad. Globalisation, particularly the free movement of goods, services, capital and skills, has been a world trend in the 1990s, but its path is often seen as erratic and inconsistent. Its main advocate, the US, is often perceived by other nations as self-serving in its approach and many countries suspect that all the benefits of globalisation will accrue to the stronger economies of the US, Japan and Europe.

Globalisation and open markets are seen to be delivering benefits only to some nations and to some people. In Australia, privatisation, competition policy and economic reform, together with technology impacts on jobs and competitiveness, have accelerated the rate of change, which has delivered both beneficiaries and casualties. When workshopping the drivers for change and developing these scenarios, many participants felt uncertain whether an economic approach that delivers benefits so unevenly and which has caused so much disaffection would persist. We were also uncertain how relations between the US and China would develop and whether that great experiment, the European Union and its single currency, would succeed.

Environment and sustainability

While we were certain of the pressures on the environment from industry and burgeoning populations, we were uncertain how these pressures would play out: would there be an environmental crisis, or a series of crises, which would force stronger environmental regulation? Would pressure from consumer and community interests create incentives for business to put in place sound environmental practices and green products?

Technology and the interconnected world

It was a given that new technologies in all areas would be a key driver for change over the next 15 years. Microelectronics, nanotechnology, genetics, new materials, biotechnology, and recombination of old technologies in the areas of multimedia, information technology and telecommunications will continue to shape our lives, and their impact on business will be revolutionary. The impact of new information technology will transform not only the way businesses operate, but the very bases of industry and commerce.

The downside to this driver for change is the implications of continuing and more extreme divisions between the information rich and the information poor.

Knowledge economy and innovation

Although we saw the knowledge economy and the increasing value of intellectual property (IP) and innovation as another key driver, we were uncertain how government regulation and legal protection of IP would pan out. We recognised the importance of continuous innovation, both for businesses and individuals, and the impact of speedy, worldwide dissemination of information.

Australian economic and social policies

Would Australia continue down the path of economic reform, tackling the taxation system, industrial relations and continue its privatisation programs? Would we take deliberate and strategic action to build Australia's local industry capability, our global brands and capacity for innovation? Would governments recognise the importance of education with increased support and funding? Would we maintain our social safety net? What would our immigration policies be? These questions were particularly important for two scenarios (*First Global Nation* and *Brave Old World*), as many of the external drivers for change were seen to be very similar; what differed was the reactions of government and the Australian people themselves to developments on the global stage.

The scenarios — Australia in 2015

These drivers gave us a lot to contemplate as we entered the 21st century and the new millennium! After considering all these trends, forces and uncertainties, we came up with four possible worlds.

First Global Nation describes a successful Australia which adapts with flair and flexibility to the globalisation of world business and the challenges of an online knowledge economy.

Sound the Retreat sees a world in which geopolitical instability and cultural and social backlash override the benefits of economic globalisation, forcing Australia to revalue its bilateral business relationships as multilateral ones became impossible.

Brave Old World is a picture of Australia where our comfortable lifestyles, economic performance, adequate social security systems and laconic approach to the future conceal the need for strategic and concerted effort to make the transition to the global knowledge economy until it is too late.

Green is Gold looks at how global agreements on environmental management imperatives play out in Australia for business and the community at large.

Each worldview, or scenario, is independent from the others, although they all share common ground. The common ground included trends like the growth of information and telecommunications technology, globalisation of financial markets, and the advent of new technologies, as described above. We understood that a precondition for our future was an accelerating pace of change, and change of fundamental significance to business and society. We recognised the power of the complex interactions between people, technologies and the consumer drivers of technology applications, and the ramifications of these interactions for how businesses compete for the customer. We understood the importance of the opening Chinese economy, with its formidable ability to manufacture and supply large volumes of products at low cost and high speed into world markets, and its increasing ability to utilise high technology and achieve high quality. And we factored in demographic changes at home and abroad.

And so the background to each of our scenarios panned out like this ...

First Global Nation¹ was defined on the basis of a belief that, although quite vulnerable and under threat, the impact of globalisation on business, capital and human flows around the world would continue. We used the word 'open' in our description of the scenario because we anticipated that national borders would be kept open economically and politically (which supposes a peaceful world). We anticipated the emergence of a world ordered politically around the central poles of Europe, all of the Americas and Asia, including an economically and politically open China. We believed that Australia could institute key policies and long term, systemic strategies at the national and business level which would provide the concerted focused effort necessary to take Australia successfully into the new economy. We anticipated more than mere success — we anticipated that by 2015 Australia would have an international reputation as a First Global Nation, showing leadership in international affairs and global governance.

¹ This title was first derived from a workshop by GBN Australia and influenced by Charles Hampden-Turner.

Sound the Retreat was based on a worldwide decay of globalisation. In this scenario we did not believe that globalisation could be sustained. We thought nations would come under pressure to pull back from globalisation for a number of reasons: (1) cultural reasons, when the US media became pervasive and e-commerce brought a little bit of America into every home; (2) social reasons, when jobs and enterprises were lost; (3) economic reasons, when it became clear that open markets gave the US and other strong trading nations access to foreign markets but did not provide those foreign nations with access to the US market; and (4) environmental reasons, when the environmental costs of competitive paradigms of production became overwhelmingly evident, especially in the populous new markets of China. Australia was the victim of this retreat, but it was also thrown back on its own resources and, through a combination of luck, confidence and foresight, some enterprises and individuals were able to create new businesses and productive relationships for Australia, both domestically and within an international arena.

Brave Old World accepted that globalisation and the wired world would continue. What it doubted was whether Australia would recognise the urgent need to gather resources and stage a focused and strategic effort to ensure it had what it takes to participate in the global knowledge economy. We did not doubt that Australia had successful and profitable enterprises, or the necessary intelligence and ambition, and we recognised Australia's achievements in opening up its economy with resultant strong growth, even compared with the world's most productive economies, by the end of the century. What was doubted was whether Australia would have the resolve, drive and sense of urgency, as well as a sufficient suite of both public policy and business management building blocks, to overcome barriers and forge the opportunities to take its place in the new economy with its emerging industries and technologies.

Green is Gold recognised that the costs of business — the products, services and factors of production such as transport, energy and water — and the way in which business is conducted are dependent upon the level and type of environmental regulation and the strength of consumer concerns for the environment. We anticipated a global response to environmental concerns and described a future in which Australian governments faced the imperative of dealing responsibly with world dictates on environmental regulation, while Australian business faced the imperative of achieving sustainable production and taking account of cradle-to-grave product life cycles. We suggested that the end result for Australian business would be a profitable bottom line for those companies which recognised early that environmental management was a central, not peripheral, issue for the competitiveness and growth of their enterprises.

It was hard for us to anticipate the wild cards in the deck of forces that make for change. A decade and a half is a short time in human evolution. Though it spans five or six federal elections, three or four US presidencies, birth-infancy-childhood and a chunk of adolescence for every child born in the year of the

Olympics, and 15 discrete minutes of fame for 525,600 Australians, it is just a blink for the all-seeing eye of history.

By 2015, of course, the world will have evolved rather differently from any one of the 1999 scenarios. There is no such thing as an infallible forecast. But understanding each of the worlds created here will help us come to terms with the complexities of living and working in the present. ●

Towards strategies

The focus of the Australian Business Foundation scenario planning project is:

to identify alternative, plausible scenarios for the future of business in Australia and to explore strategies that maximise our ability to generate wealth and jobs, to integrate into global markets and to contribute to a rising standard of living for the Australian community as a whole.

The four scenarios (First Global Nation, Sound the Retreat, Brave Old World and Green is Gold) have been developed through an extensive process of research and consultation. They represent four different world views for Australian business projected to the year 2015.

The Australian Business Foundation and GBN Australia have presented these scenarios in a format which will provide some of the tools to enable business to develop their own robust strategies.

This chapter is a guide towards using the four scenarios to identify strategies for Australian businesses into the new millennium, and create plans to implement them.

It is necessarily general, as it envisages the scenario process will be used by a wide range of people and organisations, from large corporations and government to small/medium enterprises and educationalists.

There are many difficulties inherent in attempting to describe a generic process for a diverse audience. However we hope that, once introduced to the scenario process, you will appreciate the strategic benefits the process brings, and adopt it within your organisation, making it your own.

What do we do now? is often the catchcry after scenarios have been created. This guide aims to help you answer that question.

The next step

Business strategies must be rigorous, practical, relevant and cost effective, otherwise they will not be implemented. The strength of scenario planning as a creative risk management tool lies in the way it can empower people to engage with the external world.

Using these scenarios to develop strategies will not eliminate risk. The future is uncertain and neither the scenarios, nor indeed any technique, can eliminate uncertainty.

The process of forming a strategy will not produce an unambiguous checklist of things to do. Rather than claiming to have identified a foolproof route from scenarios to strategy, we prefer to talk about the way scenarios stimulate strategic conversation¹ inside business, inside government and among all stakeholders.

Using the scenarios to develop strategies

How do you start the process of devising and testing strategies based on scenario planning? Using the materials and scenarios developed in the Australian Business Foundation project, the following is a simplified model of the steps involved.

1. Scenarios generally

Familiarise yourself with the scenarios generally and, thereby, get thinking about what things might be like only 15 years from now.

Start with the introduction to the scenarios, which runs briefly through each scenario. Next, go through the stories/vignettes, which appear in the shaded boxes before each scenario. These will give a vivid, practical illustration of what it might be like to be in business in that particular scenario.

2. Drivers of change and hot topics

Familiarise yourself with the drivers of change identified for each scenario. A few stand out as being of most importance across all of the scenarios. At the same time, think about the 'hot topics' which are in the news and come into conversations about our future business environment. The hot topics are going to impact on our businesses whether or not we have strategies in place. They may suggest to you that we are living through a time when things are changing rapidly and uncertainly. You might even think about matching these topical issues to some of the scenario drivers as we have done below.

DRIVER: Globalisation of trade and commerce.

HOT TOPICS:

- world commodity prices, particularly those of energy resources and gold;
- China and its changing role in world trade;
- leadership in business;
- ethics and the culture of transparency;
- business education;
- life-long learning;

¹ Quote from GBN co-founder Jay Ogilvy.

- economic harmonisation in the Asia Pacific;
- immigration and migration;
- exchange rates and behaviour of world stock markets;
- fundamentalism of all kinds: religious, economic, political.

DRIVER: Emergence of the knowledge economy.

HOT TOPICS:

- knowledge management and the 'new' economy;
- business and competitive intelligence;
- disaggregation and decentralisation of business units.

DRIVER: Growth in online technology.

HOT TOPICS:

- innovation in information and communications technology.

DRIVER: New consumerism.

HOT TOPICS:

- growth of e-commerce, in particular for consumer retailing and disintermediated trading in insurance, banking and finance.

DRIVER: Changes in social fabric/values.

HOT TOPICS:

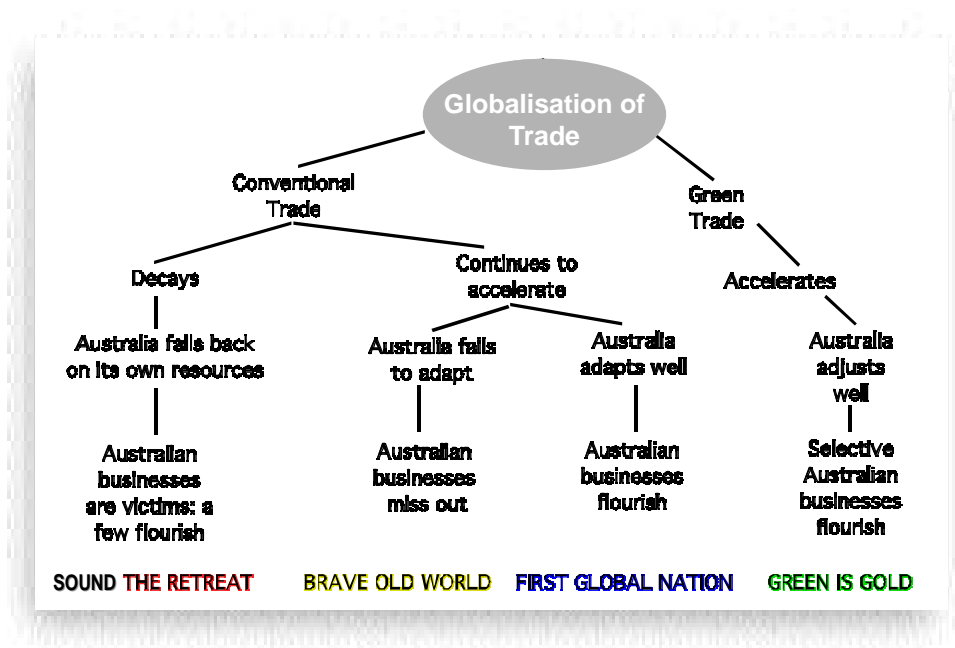
- environmental uncertainties (for example, pollution levels, climate change, disasters) and how people respond;
- changing employment patterns and attitudes to jobs;
- social stability and its link to uncertainty and change;
- inflation and unemployment.

DRIVER: Advances in science and technology.

HOT TOPICS:

- biotechnology;
- replacement of fossil fuels.

These drivers play out differently in each scenario. This can be shown graphically, for example, for globalisation of trade, as set out in the illustration over the page. This example makes it clear that these scenario worlds are distinctively different when it comes to the globalisation of trade. Similar diversity emerges from the way online technology, the knowledge economy, consumers and society as a whole behave in each scenario.



3. Indicators

The next step is to think about the events which might act as indicators of which world or scenario is emerging. These events can be picked up through monitoring and scanning. For example, some events are front page news. For example:

If a global meeting of the World Trade Organisation (WTO) were to fall into disarray, the breakdown of global trade, which is at the heart of the Sound the Retreat scenario, would be a strong possibility.

The adverse reaction of consumers worldwide to the use of genetically modified organisms (GMOs) in food technology and production suggest the existence of the mindset which will feed the environmental concerns in the Green is Gold scenario.

Other indicators are more subtle. For example:

The closure of retail banks during the lunch hour may be an indicator of the disintermediation of financial services being driven by the growth of online technology.

Increasing traded valuations of companies based on their intangible rather than their tangible assets may tell us that worlds driven by the knowledge economy are on their way.

The importance of indicators is that they are signs pointing to the possible futures in these scenarios. They are a crucial link between the environment outside business and the process inside which creates new strategies for growth and success.

Here is a list of possible indicators for each of the four scenarios:

(Bear in mind that these indicators may operate in more than one scenario — for example, taxation reform is important for Green is Gold as well as First Global Nation).

First Global Nation

- Skilled immigration levels;
- E-commerce trading surpluses;
- Regional/global headquarters being set up in Australia;
- Casual versus permanent employment mix;
- Taxation reform;
- Internet user numbers;
- E-commerce legislation;
- Changing valuation of intangible assets;
- Performance of technology stocks and shares.

Sound the Retreat

- International trade regulation;
- Dumping;
- Number of bilateral agreements;
- Trading in armaments;
- Discontinuities in balance of trade;
- Business travel to Asia;
- Australia inbound tourism from Asia;
- World recession vs the Long Boom;
- Religious fundamentalism east and west;
- Asian language courses.

Brave Old World

- Warehousing of international goods in Australia;
- Brain drain;
- Youth suicides;
- Regional unemployment;
- Percentage of children in private education;
- Investment in business education and training;
- E-commerce trading deficits;
- Australian companies moving offshore;
- Number of small/medium enterprises versus big business.

Green is Gold

- Community response worldwide to various issues such as genetically modified organisms, climate change, pollution;
- Environmental disasters;
- Elected green representatives worldwide;
- Green headquarters being set up in Australia;
- Development in carbon emissions trading;
- Trends in commercialisation of alternative energy generation research and development;
- Specialist immigration skills;
- Environmental management and technology exports;
- Price of energy.

4. Monitoring and scanning

These are the two basic methods for identifying indicators. Scanning finds answers looking for questions, while monitoring is based on questions looking for answers. Both methods are a fundamental part of the day to day research requirements which scenario planning creates and can be set up at formal and informal levels within the organisation.

Scanning takes a wide sweep and looks for events and trends which may signal new developments. As mentioned above, these may be front page events or more subtle movements and trends (sometimes referred to as early indicators).

Early indicators might be found in polls; consumer surveys; what you see on your supermarket shelves; in specialist magazines and journals; conversations at the footy or on the train; the TV ratings; bestseller book lists; or in any of a myriad of other sources.

Monitoring reduces the range of the sweep to focus on specific events. It is a more quantitative approach than scanning and is a process which can be directly linked to a particular scenario.

For example, the growth in the number of internet users in Australian homes may be one of a set of indicators for the First Global Nation scenario. Unchanging attitudes to the Australian Constitution (as in the referendum on the republic in November 1999) might be an indicator for Brave Old World!

Effective scanning is less systematic than monitoring but it is no less dependent on our understanding of the logic of the scenarios we have made and their reliance on the external environment.

Science features strongly in the Green is Gold scenario but the precise way in which scientific breakthroughs will play out are largely unknown. We thus need to maintain a very broad sweep to include unanticipated discoveries in science in addition to monitoring the known, such as the human genome project, global warming and so on.

Of course, these unknowns may catapult us into a completely new world not embraced by the four scenarios (imagine if children born after 2001 need never die; or a world where information stored on a chip can be uploaded into your brain!).

5. Checklist for identifying indicators

The business which is the first at identifying drivers of change, particularly predetermined drivers, has a unique competitive advantage. But how can you do this? Here is a checklist of some of the proven steps you can take.

- Think of the preconditions for the unfolding of the scenario and their likely precursors. See how far back you can go. The deeper your understanding, the greater your competitive edge.

- Identify the small signs of change. Early indicators are not usually front page news.
- Watch for unusual events in your peripheral vision as they may gravitate to a more central role and require monitoring.
- Look to your customers' customers. If you are a petrol wholesaler, for example, checking on motor vehicle registrations might be a critical guide.
- Look to your suppliers' suppliers. If you are a publisher, for example, what is happening to the demand for paper by printers?
- Find out what your competitors are doing in terms of hiring decisions, outsourcing, disinvesting and so on.
- What new patents have been lodged relevant to your business?
- What are the universities doing that might help your business?
- Ask: what kind of people are running for political office and how is electoral voting behaviour changing?
- Think about how social attitudes and values are changing and how quickly the community is responding to innovation, adopting new ideas and products.
- Find out what is happening with innovation in technology — its pace, investment levels, demand pull and supply push.
- Track what is being legislated for — how does this reflect social change?
- Review what is happening with economic policy — will this make it harder or easier for you to do business?
- Identify new business entrants — what were they doing previously?

Here are some examples of places to look for indicators:

- patent applications (for new technologies);
- subscription rates for specialist publications;
- attendance at conferences and seminars on new topics;
- literacy rates in developing economies;
- migration rates (both formal and informal) into Australia;
- unemployment rates;
- science fiction (books, movies and magazines);

- innovative publications (for example, *Wired* or *Fast Company*);
- postgraduate degree subjects;
- expenditure on research and development (R&D);
- head office relocations for big business; and
- job ads.

6. Develop strategies specific to your company/organisation

Indicators are pointers to which scenario world or worlds are emerging as the future unfolds. The creation of a set of indicators is a step in the strategy forming process; it is not the strategy itself.

As we anticipate and move into future business environments, we will all need to implement strategies to help us prosper in them.

The scenarios we have created for the future of business in Australia are very general. They describe different worlds in which we might do business. They do not describe the specific conditions in which you may find yourself if, for example, you were a footwear manufacturer, a broadcaster, or digging holes in the ground looking for gold.

For any specific business, new strategies will depend on 'nesting' industry or business specific scenarios within the general scenarios we have developed.

Let's imagine you are an internet retailer. Within the world described by First Global Nation, there may be two or three quite different worlds for your business; driven, perhaps, by the price elasticity of demand for your products and the impact of branding on customer choice.

Devising a bridge from our scenarios to your business is the most important step. It takes us from scenarios to strategy, from ideas to actions.

This step is one only you can make with your business colleagues. However, we would like to provide some hints which come from the scenarios as to the sort of strategic options you might want to consider.

Five strategy areas

From the scenarios, here are five strategies that could prove useful if applied to your business.

- (1) Market creation and access;
- (2) Creating business opportunities;
- (3) Technology upgrading and continuous innovation;

- (4) Human investment; and
- (5) Community consciousness.

Market creation and access

The focus on Asia which took such a bump in 1997 re-emerges as a consistent feature for business development over the next 15 years. At the business level, the key is to forge personal business links (with or without government support) which can develop into partnerships, joint ventures and other enterprise relationships.

These can help you equally take advantage of globalisation, a more regional approach to business, or a world where world environmental regulation is high. The key point is that you need to do the groundwork at the business to business level if you are going to play.

Global branding is also a priority, especially in First Global Nation. Most businesses are developing websites, at the very least as a promotional arm. An increasing number of Australian businesses are going for a '.com' rather than a '.com.au' URL as a strategic response to globalisation.

This is indicative of the power of the 'one-size fits all' aspects of Internet business and may be a necessary first step before you consider how to differentiate your brand on the basis of 'Australianness' or other local characteristics.

As a defensive measure, developing niche markets is always sensible risk management. We are certainly going to be very dependent on them if either the Sound The Retreat or Brave Old World scenarios emerge over the next 15 years. In a full-on globalised world, niches are still worth taking, provided you can find unique competitive reasons for customers to want your products or services.

Creating business opportunities

Opportunism at the macro level is all about creating a business environment in which business can flourish. All the education and training in the world will fail to overcome structural defects in the macro-economy. You can't play footy on a triangular pitch! Governments tend to get bogged down when it comes to macro-economic reform, failing to see the wood for the trees. But for the future of business the needs are usually quite simple.

The highest priority is given to strategies which dismantle uncompetitive aspects of business taxation, promote formal business relationships at the nation to nation level and attract overseas investors into Australia. Such measures are needed in all future worlds. We look to government to provide the context in which our 'opportunistic' business strategies can then be formed and followed.

Technology upgrading and continuous innovation

Your competitive advantage is directly related to the speed and innovation with which you integrate all forms of technology into your business. The advantage created has an increasingly short life span and thus you need to keep at it on a continuous basis. R&D in technology is essential, as is the ability to commercialise its fruits.

In the world of First Global Nation we need technological know-how not only as suppliers but also as consumers. A 'consumer' strategy which aimed to make high bandwidth access a priority for all homes and businesses and adopted a 'computer for every pupil' approach to *primary* education would make a qualitative difference to Australia's ability to play in the globalised world.

When we talk of technology, the conversation is not limited to IT. Environmental technology, for example, in which Australia has a strong role, is equally important and once again it is the integration of technology into business practice which is the key.

Technologies are not afterthoughts to 'clear up the mess' or to 'do things quicker'. They are tools which need to be embedded in the way we do our business and to change the business that we do. And it is the processes by which they are embedded which lie at the heart of the so-called knowledge economy.

Human investment

The emphasis on knowledge and learning play a part in all the scenarios and is most significant in Green Is Gold and First Global Nation. We lack the requisite number of trained IT personnel to grow our economy and every effort is needed to expand the skilled workforce through training at business level, by educational institutions and through selective immigration. The uplift here is needed urgently.

The same forces are driving changes in the way people want to be employed. We need flexible models for employing staff and a good starting point for many businesses is to respond to the requests and needs of existing staff. A talented mother-to-be may be able to continue with your company, working from home in a fully wired home office you have set up together. Or you may be able to avoid renting additional space by creating a network of sub-contractors for certain parts of your business. These opportunities increase dramatically the knowledge-base of your enterprise. The 'distributed' legal practice with a small CBD office for essential meetings with clients is just around the corner.

Improving the quantity and quality of business education is paramount in the globalisation scenarios. Business education is about leadership as well as technical skills. CEOs might promote strategies for leadership development at all levels of the enterprise (and not just for senior managers) and encourage continuing education for everyone.

Part of the new educational needs is a deeper understanding of Asian values and

culture. This might be helped by temporary job swaps or placements between you and your Asian business partners as part of the process of fostering regional business development.

Community consciousness

The rapid business changes which all the scenarios (other than Brave Old World) contemplate bring with them a social upheaval which has significant consequences for business. And even in Brave Old World, social issues to maintain the status quo intrude on business operations. The depletion of rural resources, the growing alienation of poorer conurbations and the widening gap between all the 'haves' and 'have nots' are some obvious examples.

Nevertheless, the role of business, and particularly for SMEs, in socially focused strategies is not always obvious. We do recommend that you think, nevertheless, of your business from a stakeholder rather than just from a shareholder viewpoint.

Recent decisions by Australian banks on rural branch closures may well have been different if a wider scope had been given to strategic decision making. This is not a matter of charity. In First Global Nation, the bank that successfully marries electronic banking with first class personal service is likely to be a big winner in the disintermediation of financial services.

Similarly, businesses which collaborate with business educational institutions or with Asian communities are likely to find themselves better placed to take advantage of the rewards which globalisation brings — even if the first steps look like all cost and no profit!

Finally ...

Scenario building and strategy development are infinitely varied and have no finishing point. There are no 'right' answers. We like to think of the process of moving from one to the other as a strategic conversation with the potential for embracing all the players in your business. The scenario framework is essentially one which improves the quality of business decisions at all levels of operation by forcing them to think more broadly than just focusing on operational or financial realities.

We hope you will develop the conversation in your business with your colleagues and that the fruits of your labours will end up where they belong — as additions to your bottom line.

Good luck to everyone participating in the scenario building for the future of business in Australia.

Oliver Freeman

GBN Australia

Sydney December 1999

First Global Nation¹

This scenario tells of a vital, young nation that reinvents itself to capitalise on the massive transformations occurring in the business world, in consumer needs, and in society at large. These changes are occurring because of the rise of networking and online technologies and the increasing pace and penetration of the free movement of ideas, knowledge, people, goods, services and capital around the world.

Australia embraces its internal diversity and its freedom from the grinding forces of cultural and ethnic longevity and the responsibilities of global leadership. Despite being small and a long way from anywhere else, Australia is able to catch the tide of globalisation.

By a deft mix of economic reform, engagement in international affairs and aggressive action to boost home-grown innovation and industry capability, Australia leverages a place for itself in the global market and in the affairs of nations.

Australia as a Global Nation

The Year: 2015

The Place: Melbourne, Australia.

The achievement: An open society, high tech, high skilled, inter-connected, transparent, adaptable, diverse, confident, environmentally astute, entrepreneurial and knowledge driven.

The story: How a strong national brand transformed itself into a global icon, while re-inventing the notion of travel, adventure and lifestyle services.

Fortune Magazine, Asia edition 15 September 2015

Oz Wiz Planet Family Heads For Mars

Lively Planet was born on a suburban kitchen table in the early seventies with the

¹ This title was first derived in a workshop by GBN Australia and influenced by Charles Hampden Turner.

publication of a thin, smudgy guide to the hash dens of Asia. Snapped up by the first wave of backpackers, this edition was quickly followed by a series of localised guides with a broader outlook.

By the 90s, The Lively Planet had become a household name. Its 79 titles covered much of the world, from Manhattan to Marrakesh, from Katoomba to Kurdistan. Its core market had expanded from backpackers and nostalgic baby boomers to embrace armchair explorers and a global, upwardly mobile middle class in search of cool adventures to share with their kids.

And then came the web.

Overnight, a million customers became a community. A community rich in information and experience, with an affection for the brand and its evolving aspirations. From far flung destinations, its members gleefully posted updates to the Lively Planet website, further enhancing the reach and credibility of the guides.

The firm stayed based in Melbourne in the 21st century, as major shifts occurred in its operations and areas of focus.

Warehouses shrank, as the bulk of its output was delivered online. Its worldwide community, the lively planeteeers, expanded — not only physically, but in their aspirations. The readers became restless. They wanted more.

Sensing the de facto partnership, readers suddenly sought more from travel guides than hotel tips, restaurant reviews and museum opening times. They wanted Experience. They wanted Adventure. They wanted to feel as if they were going to places no one had ever gone before.

At first, these demands were easily handled. China shook off the last vestiges of paranoia and opened its borders, the hordes came running. Instant language translators eased the penetration of the hinterland, and meals of live monkeys brains enlivened even the most jaded palates.

Besides, China seemed the perfect antidote to the implacable spread of McWorld. It had weird herbs and wild discos. The boom lasted until about 2010, when the one millionth outlet of McDonald's in China planted its golden arches in Tiananmen Square. Suddenly everywhere in the world seemed like everywhere else.

The Lively Planet declared a state of emergency. Its leading lights were flown to Melbourne for a bout of intensive scenario building and future dreamings. Where to for adventure travel?

After months of tears, rage and laughter, the hot shots emerged with three options: inner space, cyber-space and outer space.

They took all three.

Lively Planet started crafting journeys to enhance its community's inner experience. In a world of convergence and platitudes, it threw in the powerful ingredients of education,

entertainment, multimedia, sports, extreme challenge and a toolkit for self-transformation. The first of these inner journeys was trialed in the Australian wilderness. Led by high quality growth guides, with a slew of backup trainers, the 'soul journeys' were an instant hit.

On that shimmering dawn when Bill Gates was caught by a paparazzo (disguised as an Aboriginal shaman) on top of Uluru in a yoga stance weeping with joy, Lively Planet's stock tripled on Wall Street.

The world's major corporations queued up to send its senior managers outback. They re-emerged as a mix of Crocodile Dundee and the Dalai Lama, with a flair for capitalism.

This time, Australian business did not ignore what it had grown in its own backyard. In a turbulent, high tech, globalised Australia, with a rapid turnover of skilled workers in short supply, there was an urgent need to re-invent the workplace. Lively Planet's soul journeys turned out to deliver a practical punch. They nourished the psychological needs of local employees, helping them, finally, to overcome the cultural cringe. Most of all, by delivering an expanded sense of self, they unleashed the wellsprings of creativity.

Suddenly, Lively Planet had provided a fruitful, magical interface between lifestyle, mindstyle and workstyle.

By taking into the office its global community's sense of adventure and its zest for making new discoveries — the very impetus of the original business — Lively Planet sparked a rush of creativity and innovation to propel Australian business into the future. Even our venture capitalists started taking risks.

All kinds of new businesses were born. Lively Planet was invited to form an alliance with the ailing but still powerful Microsoft to convert its soul journeys into virtual journeys. These were bundled with Microsoft Office 2012, and were credited with further shifting the role of corporations into areas of social responsibility and sustainability.

Lively Planet became a major world provider of a unique range of lifestyle services.

In a scheme similar to frequent flyer programs, the Lively Planeteters could ascend various gradations, experiences and initiations, each one embedding them further in the Lively Planet Family of Global Adventurers.

By 2015, the firm's ability to craft lifestyle packages, combined with its techno wizardry and marketing savvy, shot it to dominance in the field of global human resources. Its virtual journeys were standard issue for politicians and CEOs in the public and private sector, while its bread and butter guide books had settled in to become the basic geography texts of the world's educational institutes.

Here was a company which had made its name from charting a geography of the

planet way back in the old days and had now evolved into charting a geography of the person — a move from world maps to lifemaps, from the physical to the mental and spiritual.

At the close of 2015, Lively Planet accepted an offer from NASA to send its Virtual Reality production team to Mars. On this momentous occasion, the first step for humankind on a molten Martian landscape was shared and felt by millions of Lively Planetters back on Earth, who didn't even have to leave their living rooms. ●

Definitions of global

Open society: western models of democracy, separation of power and free media and transparency are prerequisites for economic development.

Open markets: free flow of capital, people, goods and information around the world.

Cultural and technical connectivity: Embracing social, political, technological and financial connections along with spiritual, ethnic and religious aspects and the removal of territorial boundaries.

Gradual adjustment to open markets and competitive economies marked by global co-operation.

Broad access to technology: allows very wide availability of education and the development of new skills. There is liberalisation of markets and of individuals' access to information and choice, but regulation and co-ordination on environmental matters, on transparency of governance and issues which protect individuals (for example, gambling).

The understanding of a global economy may embrace a world divided into blocs for various purposes, for example the European Union (EU). Yet there may still be 'across the board' global rules in other areas, for example most trade in goods and services, the airline industry, environmental policy, regulatory systems and standards. In fact, it is hard to see the world operating in a truly global manner while such culturally strong approaches to business as that of the *huaqiao* (the offshore Chinese) and similar family associations strongly entrenched in businesses of Korea (the *chaebol*), Japan and China remain.²

2 1998 World View Meeting — Navigating a Diverse Region: Scenarios for Asia 24-26 August, Sydney, GBN Australia, St Leonards, NSW, 1998.

Scenario logic

There are three pillars supporting Scenario 1:

- (1) Global
- (2) Online technology
- (3) Knowledge economy

We assume in Scenario 1 that trends to a globalised economy and globalised media continue without significant setback; that the trend to an online interconnected electronic world, including a world of electronic commerce, continues; and that the emerging knowledge industries become the strategic industries in a global economy.

For Scenario 1 to be true, important political, economic, environmental and social issues must also be true

Within the understandings of globalisation are a number of assumptions about open borders, zero tariffs, and unrestricted trade. At a time when the US has imposed restrictive tariffs on lamb imports from Australia and NZ, the assumptions underlying the political economic world order must be considered. These assumptions are listed in summary form below. Some of the assumptions are tenuous and therefore indicate that another scenario could eventuate if the assumptions don't hold, or that Scenario 1 is more haphazard and partial than the smooth transition to a borderless global world suggested here.

Commitment to the World Trade Organisation

1. The US champions and observes open trade/World Trade Organisation (WTO) agreements. The US performance on this is critical at the moment because of the US position on imported lamb and opposition to China's recent agreement to join the WTO.
2. Signatories to the WTO need to meet their previous Uruguay Round commitments fully and commit to further market opening as new negotiations get under way in 2000. If not, some countries will resist further commitments and possibly fall prey to lobbying from industries which are under pressure and wanting protection restored.
3. China's size and might as a market and as a producer of goods and services means that it will be a major influence on how the global economy pans out. China must join the WTO in order to give greater regularity to its trading behaviours and for a globalised world to exist. Other critical issues relate to ownership rights for intellectual property and copyright which, if not observed by China or not able to be imposed on the populace, could lead to the breakdown of this scenario.
4. The backlash against and resistance to open and deregulated markets does not cause markets to close or reform to slow significantly.

Peace between the major trading nations

While there are tensions in Asia between North and South Korea, India and Pakistan, India and China and between the fast growing Taiwan and structurally impeded China (and issues relating to the US military presence in the region), this

scenario assumes that peace and stability are maintained at a level sufficient to prevent major disruption to world trade or massive levels of refugees.

Asian recovery off the back of reform

1. Japan, Korea and other high population and developing market and producer economies in Asia will need to recover in the next three to five years (and Indonesia in a longer time frame) and will need to achieve, for example, corporate restructuring and reform of their legal and governance systems.
2. A collapse in North Korea does not eventuate or, should it happen, the impacts are only felt locally in the slowing down of the Korean economy.

A successful Europe

1. Russia makes the transition to a capitalist market system.
2. The EU successfully integrates into a single powerful market.

Global protocols

1. The flow of global capital requires a higher degree of transparency in order for countries to avoid the problems of exposure to volatile short term finance flows sufficient to bring down their economies.
2. Other global protocols need to be put in place to prevent a backlash against US 'economic imperialism' and 'cultural colonisation'.

Economic shocks fail to be globally disruptive

1. The US experiences a long economic boom, persuasively argued by Peter Schwartz of GBN in 'The Long Boom',³ and the internet bubble does not burst; rather it deflates slowly with no sudden or disastrous implications for global markets.

Business and government prove to be globally competent

1. Organisations can probably achieve the logistic and system design complexity needed to run efficient global organisations. The assumption is also that CEOs and company boards are aware of, and open to, the commercial opportunities of global organisation and strategies to achieve global markets.
2. Governments will make a significant contribution in their role as '*the new territorial masters*' — ensuring a good home for value creation within their nation. Governments' competence in this endeavour will be critical in attracting and retaining successful industries and firms.

No environmental crisis with impacts in the developed world

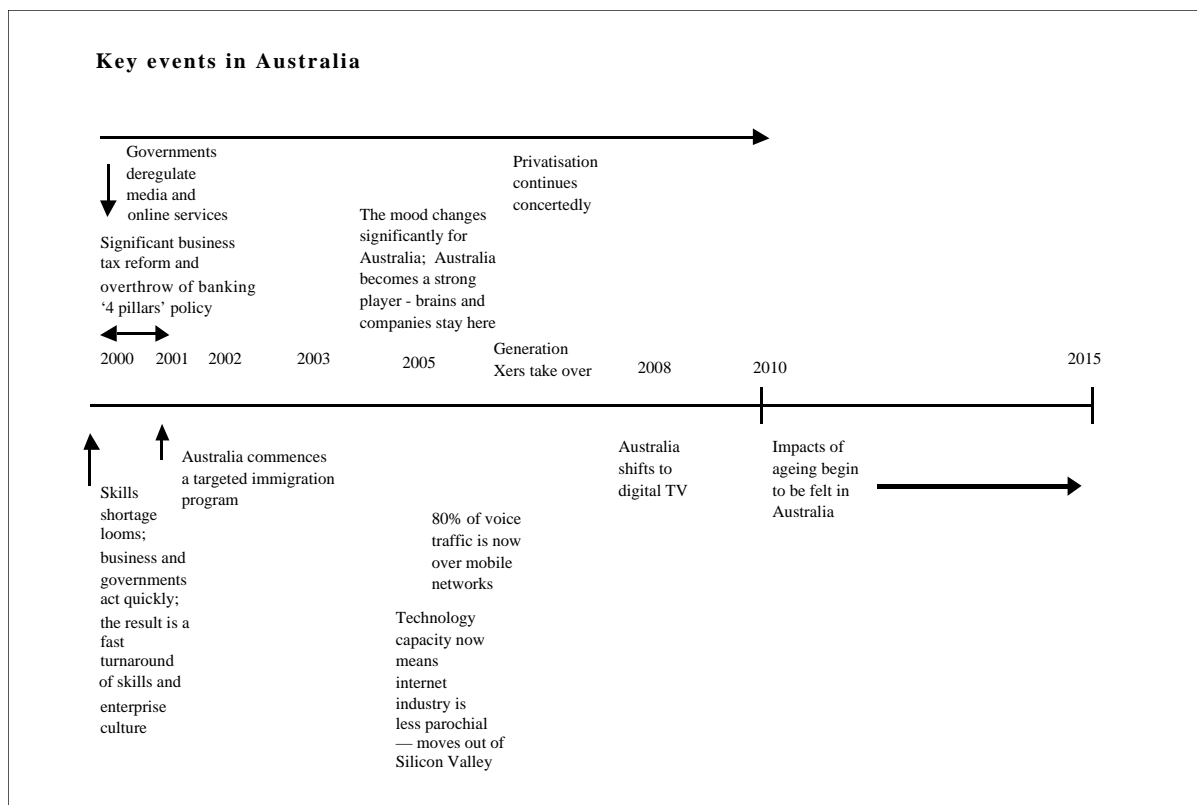
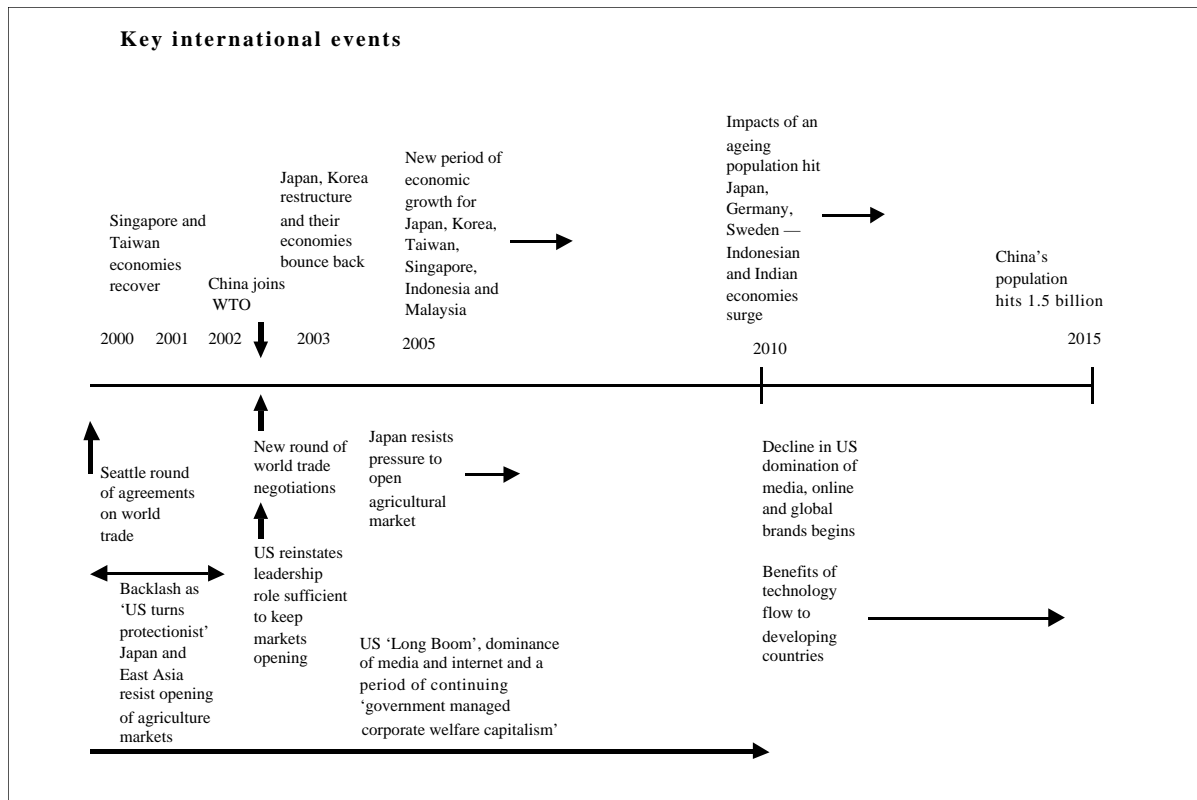
Environmental problems must remain manageable. There must not be any environmental crises in the powerful nations which impact on the power brokers. There is also an assumption that technology could come to the rescue here — biotechnology, dematerialisation and alternative energy sources, for example, which change the use of materials and waste flows from business.

Social cohesion is shored up

Losers are not so disadvantaged and social cohesion so broken that outbreaks of civil disobedience and loss of law and order occurs, and the effects of this are not felt by decision-makers and power

3 Schwartz P 'The Long Boom: A History of the Future, 1980-2000', *WIRED* Archive, 5 July 1997.

First Global Nation — timelines



brokers to the extent that they look for a better way of distributing the advantages of the new economic order. The assumption is also that, while there are calls for a new economic order, the new economic order is at the margin — an adjustment to the prevailing order rather than a radical overhaul.

The world order has huge implications for trade and security and our research suggests this is influenced by the uncertain factors listed above. Our research also suggests that Australia is a 'taker' of global trends, not a 'maker' of them. The macro factors and uncertainties described here will drive our future. Nevertheless, Australia's ability to understand trends and uncertainties and adapt to them is critical for its future.

The Scenario 1 story

Key characteristics

1. There is a connected, online, screen based economy.
2. Consumer power defines the products and services available, and where and how they are delivered.
3. Business operates across national borders with a free flow of goods, capital, people and information.
4. At the extreme, all but the newest and most complex opportunities are visible to all businesses around the world at the same time, stripping away bases for comparative advantage built around access to information, access to markets, new designs and ideas. In particular, China quickly 'competes away' product uniqueness, driving rapid and aggressive competition for new ideas, stronger brands, secure customer relationships and unique and defensible technologies. Time is scarce. First to market is an imperative.
5. Information and communication technologies and the success of new net-based businesses have stimulated entrepreneurial behaviour and an aggressive approach to finding and exploiting new business opportunities. This has led to challenges to traditional industry structures; challenges to the competitiveness of many large companies; and rapid transformation of most service sectors.
6. Lean companies outsource peripheral and non-core activities, leading to many back-office functions performed by specialists being shared between often competitive companies. The customer interface is vital, with brand, marketing, information and customer service the keys to winning business.
7. The benefits are felt unevenly across society and nations but the protests are not heeded — the social cohesiveness of Australian society is challenged.

The world around us

Geopolitically, the world has developed a tri-polar political balance of the Americas, Europe and Asia.

US

The US remained largely insulated from the travails of the global meltdown in the late 20th century and experienced a long boom for a further decade.⁴

The main economic challenges faced by the US during the period were: continuing fiscal discipline;

4 Above note 2.

maintaining open markets in the face of pressure from internal lobby and special interest groups disadvantaged by globalisation; and promoting growth abroad. The internet became the vehicle for the communication of global issues and alternative perspectives into American homes, by passing the media gatekeepers. Thus the US populace became more internationally aware.

Trade liberalisation

It was a bad start to the first decade of the 21st century ...

The main challenges from the international perspective were somewhat different. Summed up by Oliver Freeman as the paradox of the 'US being the world but the world not being the US', the US increasingly came under pressure from international bodies to take a less US centric, cultural coloniser approach to its role in the world and its position in world trade.

Since World War II, the US has been the key standard bearer for trade liberalisation, and probably its largest single beneficiary.⁵ It was, however, influenced by internal politics and lobby groups and in fact had a scratchy record. Its credibility as a free trade advocate was called into question during the Clinton administration, which had opted for the line of least resistance with internal producer and industry sectors. This created fallout among import sensitive interests in Europe, Japan, Australia, NZ and elsewhere but not sufficiently to force the US to take strong leadership on trade in the global trade negotiations in Seattle in December 1999.

Commentators noted that at a time when the US economy was surging ahead, in late 1999 and the early 2000s, the US became a disturbing counterforce to open trade. Its resort to dispute mechanisms and protectionist approaches to trade problems at a time when it was expected to show leadership in getting the new WTO round up and running created cynicism among developing nations. These nations needed to be convinced that open markets would give them better access to the US and other key markets and not just open them to exploitation by developed nations, and there was increased internal political lobbying from disaffected industries in many countries.

However, by 2002 open trade was back on course ...

The 'US turned protectionist' position badly affected Japanese exports of manufactured goods and the flow-on of protectionist policies in Asian countries was devastating to Japan and also Korea (which exports 50 per cent of its goods to the Asian region). International pressure resulted in an extraordinary round of negotiations in 2002, which was also timely in bringing China to the table. A change in US leadership in the early years of the new millennium brought with it a new trade agenda and renewed leadership. This occurred in key areas of open trade, through the WTO and through global cultural policies in the media and the internet.

For all that, throughout this period the US maintained a form of what John B Judis described in 1999 as 'government managed corporate welfare capitalism',⁶ which was written into NAFTA and WTO agreements.

⁵ Editorial, *Australian Financial Review*, 9 June 1998.

⁶ Judis JB 'Politics took the free market hostage long ago' *Australian Financial Review*, 27 May 1999, p 21.

Cultural colonisation

From 2000, the US pulled away from the rest of world in e-commerce revenue, media, communications and software and in 2015 has a dominant position in these sectors worldwide. The internet was the force which had driven the world economy over the period and the US was able to use its head start in the mid to late 1990s to gain a bigger share of world trade. In the heady days of 1999 through to 2001, during the internet bubble on the US stock market, internet companies used their high valuations and the relative strength of the US currency to issue new shares to make expensive acquisitions of competitors. While the internet, in theory, gave everybody the same opportunity to reach anybody anywhere in the world, the funds needed for large scale marketing and the need for powerful brands meant that those companies formed to build market positions and brands in the early years of the internet later proved to be unassailable.

So strong was the US domination of media and the online economy that a cultural backlash threatened. Issues at the heart of international disquiet were access and equity for underprivileged nations and the world's responsibilities to understand and preserve cultural and social differences in the connected and US media dominated global communications system. Protests from minority groups and cultures around the world went unheeded and so US domination of media and culture, which had commenced in the 20th century, continued for another 20 years. Ageing of the US population, loss of English as the dominant online language and a surge of youthful Asian populations gave indications of the erosion of this dominance from 2010.

China

China viewed and still views the US as an 'arrogant hegemonist that works its will in a pliant world'.⁷ Many commentators have noted that the Sino/US relationship is the most important relationship in the world. By 2015, so far so good.

China has reached its rightful 'place in the sun' as a world power. China is in 2015 what Germany was at the turn of the 20th century: the new challenging great power, pushing inexorably against its neighbours.⁸

China maintains an inward looking national approach with a hostile view to the outside world. It has a strong work ethic; its citizens maintain very high levels of savings; it is beset by poverty of enormous proportions.⁹ Due to slowness in corporate and economic reform, it also suffers from slowed growth.¹⁰ It has remained a unified economic power, partly because of the small ethnic minorities, but also because of Beijing's largely successful attempts to keep the population prosperous during these 15 years.

At the turn of the century, China maintained an anti-US and anti-'Asian NATO' approach to politics and trade, viewed to be because of their aspirations for Taiwan and possible US interference. Communism as depicted in Mao's 'Little Red Book' was no longer a force, with the dominant ideology being a materialistic pragmatism that used populist 'people' slogans to sustain control. Commentators have noted that the historical pragmatism of the Chinese prepared them well for an intelligent embrace of selected Western business ideals and technologies.¹¹

Fifteen years into the new millennium there has been some change but the underlying world view has changed little.

7 Krauthammer C 'The real China scandal' *Australian Financial Review*, 2 June 1999, p 18.

8 Above note 7.

9 Ogilvy J and Schwartz P *The Next Leap: Scenarios for the Future of China* (preliminary edition) GBN Australia, 1998.

10 Fayle P (Department of Foreign Affairs and Trade), interview by correspondence (electronic), 23 June 1999.

11 Above note 2.

China was slow to enter the WTO on any sort of acceptable terms, leading commentators to observe in 1999:

The very unfathomability of commercial processes, the dependence on cronyist connections — complicated by musical chairs among ministries and bureaucrats — underlines the need for a rules-based regime such as the World Trade Organisation provides.

Exhausted investors in or traders with China have been stressing this with increasing stridency ...¹²

One reform instigated by government was the sale of defence owned business. Commentators noted the 'wreckage [which] China's military strew across boardrooms in its halting retreat from business, leaving joint venture partners in the dark and often out of business'. Massive losses for foreign investors continued into the first five years of the new millennium and some foreign commercial banks walked away from China during this period.

China remained out of the WTO in 2000. Prior to the Seattle round of talks in 2000, security concerns returned to the top of the agenda for the Asian region. The Chinese foreign minister, Mr Tang Jiaxuan, commented:

Factors of tension and turmoil have increased rather than decreased. Hegemony and power politics have developed further. The cold war mentality has by no means died out in the regional political and security arena.¹³

China was at the centre of two of the three major security issues: the row with Taiwan and its claim over the Spratly islands in the South China Sea. In relation to Taiwan, Mr Tang commented, 'Prosperity and development are associated with unity, while war and conflict come with separation.'¹⁴

Significantly for the expansion of global trade, however, China did join the WTO in 2002. An extraordinary round of talks was called at this time to accommodate China's commitment to join and in order to recover the ground lost in 2000 when the US was far from compliant.

China has subsequently largely met the agreed requirements, although there remain large quantities of trade done outside of government controls and there is inadequate observation of copyright and intellectual property (IP). These continue to cause friction between China and the US.

In 2015, China has a massive population of 1.5 billion people,¹⁵ and is more prosperous and politically stable than at any time during the past 50 years. Chinese citizens enjoy greater flexibility, are better educated and have more material goods. They also have access to overseas media and are connected online in huge numbers, although this is still not the case with a majority of the population. Many foreign economic ventures are flourishing — however,

12 Callick R 'Murdoch webs still tangled' *Australian Financial Review*, 13 May 1999, p 14.

13 Mr Tang Jiaxuan quoted in Callick R 'China warns of Cold War mentality on security issues' *Australian Financial Review*, 28 July 1999, p 9.

14 Above note 13.

15 Above note 9.

domestic problems are huge and are largely unchanged over the past 10 years, and this has slowed growth considerably. Corruption continues to increase, there are disparities of wealth, the financial system is fundamentally flawed, unemployment is high and state industries continue to be inefficient. State ownership and government business remain the pillars of economic organisation in China.

Slow growth over the period has slowed the full impact of environmental degradation. Technological developments during the period and a changed attitude towards the environment as the Chinese middle-class became larger and more vocal have made significant inroads into the problem. The sheer size of the population keeps this issue high on the national and international agenda.

While the commercial rise of China was expected to go hand-in-hand with a military rise, this has not transpired. This is probably because of the huge domestic problems that have slowed growth and kept Beijing busy securing national unity. However, military considerations are not off the agenda.

Now that the economic vitality is shifting to the growing youthful populations of India, Indonesia and to a lesser extent China itself, China can afford to forget its negative attitude to the US, and in doing so, emerge even more powerful.

Economic activity

China has remained a low cost manufacturing location with a large supply of low cost labour. Building on the technology transfer resulting from the relocation of Taiwan's manufacturing, China developed world class production and research and development capabilities by 2010.¹⁶

Similarly, inward transfer of technology, as well as skills in manufacturing and design, built competence in China to a level that enabled it to be the low cost and high quality supplier of consumer and fashion goods into every market worldwide, obliterating manufacturing industries reliant on a high labour component in higher cost countries.

Taiwan

By 2000 Taiwan was widely viewed as the rising star of electronics. It already played a leading role in global PC hardware production and was doing more original design than simple manufacturing. Because of rising cost structures, Taiwan manufacturers moved production to other parts of Asia, with the majority of production going to China. This helped to drive a massive expansion of electronic production in China.¹⁷ In 1998 Taiwan held the world's largest foreign reserves, attributed to the *huaqiao* (the offshore Chinese). The *huaqiao* have continued as one of the drivers of economic growth in the subsequent period to 2015, and have brought vast capital to China and Taiwan, as well as business acumen, technical know how and economic worldliness.¹⁸

Tensions between China and Taiwan continued, mainly evidenced by political posturing from Beijing. Nevertheless, increasing economic self-interest in China, the economic strength of the Taiwan economy and the spin-off benefits for China, along with the enduring pragmatism of the Chinese populace, have overridden any consideration of forcing national unity. Indeed the official line is now one of China and Taiwan as 'two States of one nation'.

Taiwan became the 'Silicon Valley' of the greater China.

16 Sigurdson J (Stockholm School of Economics) reported in *Navigating a Diverse Region: Scenarios for Asia*, above note 2.

17 Above note 16.

18 Above note 15.

Asia generally

Singapore and Taiwan bounced back from the Asian crisis first, probably because of the ability of these countries to sell goods to the US (during this period the US was very prosperous and its consumption was very strong).

Korea was held back by the traditional *chaebol* and their related companies, and attempts at unification with North Korea. Commitments to reform issues like corporate nepotism, international accounting standards, corporate governance, financial market liberalisation and shareholder representation were implemented in an uneven way, in terms of extent and sustainability. Some countries, such as Singapore and Taiwan, moved ahead early and maintained that lead. Political leaders saw through significant reform and rationalisation of powerful national conglomerates, and new efficient company structures and corporate approaches emerged by 2003. This restructuring included asset sales and sales of non-core businesses, many of which were picked up by international companies.

The Asian crisis had led to many new partnerships between Asian and European and Australian and US companies which influenced the organisational efficiencies, international standards and focus on core competencies subsequently achieved by these large Asian corporations. One of these was the Acer and IBM partnership formed in 1999, but this was merely the first of many similar partnerships and joint ventures in the 21st century.

A fundamental financing shift saw Asia's recovery coming from US and European banks which offered a broader, cheaper and better product mix than Japanese banks. The inflow of European and US finance also brought better skills to the restructuring process, particularly from the US which had previous experience in Latin America.

Because of growth in the middle class and relatively youthful populations, parts of Asia moved into a new period of economic growth by 2005. During this time, however, governments weakened. The real power increasingly resided with the mega-wealthy and mega-corporations and the boom was marred by high unemployment, poverty, crime and increasingly severe environmental problems.¹⁹

Japan

A period of modernisation began in the late 1990s to achieve new corporate and economic organisation and this has slowly changed the Japanese way to one suitable for the 21st century. Japan entered a new era of growth as a result of these systemic changes.

Change was slow because of the rigidity of traditional organisations and ways of thinking. The results for Japan have had high social costs, with loss of traditions such as lifetime employment. Labour mobility, inflow of foreign management and international management exchange schemes have all assisted a top down change that has breathed new vitality into the creativity and technological competence of Japanese organisations.

Domestic savings have remained high and secured the long term economic prosperity of Japan, although a significant change was felt in the early 2000s

¹⁹ Above note 2.

when depositors became more demanding of the guarantees and returns from deposits. However, the size of deposits has enabled continuance of this traditional source of patient capital for long term investment projects. While the very high level of domestic savings has also continued Japan's foreign investment, much of this going to the US, it is at very reduced levels from the pre-Asian crisis period. This is also exacerbated by the behaviour and attitudes of a younger generation which does not have their parents' fixation on savings.

The panic withdrawal of Japanese money from Asia at the time of the Asian crisis was subsequently reinforced by Japanese banks rationalising offshore operations as part of their agreement to restructure and improve profitability. While at reduced levels and on different terms, Japanese finance in the Asian region has still been substantial throughout this period. Japan attempted to secure political and economic relations within its region through the Miyazawa plan and other plans to finance the government debt of Asian nations struggling to emerge from the Asian crisis in late 1999 and the early years of the new millennium. Nevertheless, a sinister twist to this regional citizenship came to light when well supported regions backed Japan's stance on protection for agricultural industries. On this issue Japan remained firm. It continued to protect its local producers, rice growers in particular, and hold back on agricultural market opening.

Economic opportunities

Market liberalisation progressed during the period, driven by political rationalism and by the need for injection of innovation and new, often technology-based, products into the product and service offerings of Japan's companies. A prime example of the opportunities was the Macquarie Bank leading the way to exploit the opening of Japan's once closed financial services sector following the establishment of a successful treasury derivatives joint venture with a Korean bank in 1998. In 1999 Austrade research had identified financial services, particularly product design, service and technology, as a prime area of opportunity for Australian financial services companies. These companies were soon to find the tether of the 'four pillars' policy in Australia removed. Needless to say the competition for these opportunities from the large US banks was fierce.

Demographic change has driven growth in the Japanese appetite for imports. Young Japanese have abandoned the savings fixation of their parents and have learnt to love shopping and travelling, ensuring a steady increase in opportunities for foreign goods, particularly brand name products. Pent up demand for services in areas such as childcare, health and inexpensive recreation has also driven new economic opportunities in Japan over the past 15 years.

By 2010 the ratio of exports to GDP had declined dramatically, driven by an ageing demographic. At this time the youthful populations of Indonesia and India drove strong economic growth and entrepreneurial activity in their countries. It is anticipated that by 2020 economic growth in China and India will start to take over from the developed economies of, for example, Japan, Singapore and the US (spearheaded by their younger populations).²⁰

Europe

The EU has integrated as one powerful market. The euro is finally a strong currency and the EU has taken its place alongside Asia and the Americas as one of the three pillars of the global community and the three world currencies.

Europe secured its position in Asia during the Asian economic crisis. European firms developed access to Asian consumers to maintain growth goals and were a significant provider of funds for the growth period after the Asian crisis in the late 1990s through to 2015.

International agreements and practices

Francis Fukuyama commented in 1999 that 'one of the dysfunctions of the new global economy is the sheer

²⁰ Tupule V (ABARE) in *Navigating a Diverse Region: Scenarios for Asia*, above note 2, p 13.

volume of short term capital sloshing around in it'.²¹ Private capital markets were not terribly efficient in the last decade of the 20th century; they substantially mispriced risk by sending hundreds of billions of dollars to Asia and Russia under the assumption that exchange rates would hold steady. The resultant economic and (sometimes linked) political crises in Asia and Russia in the late 1990s caused concern that resulted in greater effective global management and controls.

Major reforms have taken place in the world financial architecture — largely through market based reforms — in order to rein in the excesses of financial flows and ensure strong banking supervision.

The acceptance of the rule of law, with the expectation that contractual arrangements will be honoured and that rights of property will be protected, and the stable legal environments requisite for free markets²² have largely been achieved, although this has occurred over a long time frame. This is being tested in some nations to this day, particularly in China, and is a continuing point of friction in international trade relations. Except for China, the major Asian trading nations achieved this legal stability by 2003, overriding an early advantage for Australia in providing European and US companies quality international legal and corporate governance systems as one plank of Australia's launchpad into Asia.

It was not only governments and international organisations that played vital roles in smoothing the way to achieve this successful global economy. Out of self-interest in preserving open markets, major US software and e-commerce companies have jointly sponsored studies on such issues as: governance in the digital economy; the role of the internet in governmental processes and procedures; democratic institutions and societies; access and equity for underprivileged nations; and the world's responsibilities to understand and preserve cultural and social differences in the connected and US media dominated global communications system. Use of global communications achieved wide distribution and discussion on these transformational issues very early in the new millennium.

The competitive environment for Australian business

Some commentators observed at the end of the 20th century that there was a crisis of global overproduction in the real economy, reflecting state driven over-investment by Asian countries seeking to replicate the Japanese development model. The Asian crisis caused many Asian companies to realise that there was excess capacity and to become more focused on efficient capital allocation, resulting in rationalisation and divestment of inefficient and unprofitable businesses. The sheer size of China as a producer of low cost and increasingly high quality manufactured goods maintained an overhang in supply, creating considerable downward pressure on prices and commoditisation of goods at increasingly fast rates.

This competitive pressure, combined with consumerism, continued to drive product and process innovation, growth, the importance of global brands and an

21 Fukuyama F *Australian Financial Review*, 9 June 1999.

22 Merritt C 'Judge warns that without rule of law there can be no market' *Australian Financial Review*, 14 May 1999, p 27.

ongoing search for new business opportunities, most often at the expense of social and environmental amenity.

Geopolitics

As in the US, growth in Australia was reliant on consumption spending and business investment remained flat for the federal budget period 1999-2002. Nevertheless, domestic consumption could not form the basis of long term growth if Australia was to achieve rising incomes by participating in the industries that were setting the global pace. So during this period significant business taxation reforms were implemented along with ongoing productivity improvements in business and an unending process of adjustment to make legal, governance and government processes efficient and faster. As a result, government became smaller over the period.

Australia continued an aggressive program of privatisation for the first 10 years of this century. Government policies of privatisation and outsourcing led to the Australian public sector becoming one of the smallest in the world. Public expenditures remained high in social welfare in line with most OECD countries. However, Australia followed the US in its welfare reform — termed the end of ‘welfarism’. Reciprocal obligation and programs of assistance directed at return to work became the approach.

Government during this time recognised that knowledge-based industries — not raw materials — are the way to wealth creation. A critical debate was held on the key issue of whether more needed to be done by government to change the structure of the Australian economy so it could better participate in the industries showing the strongest growth in the global economy.

One response to this question was to make adjustment to taxation policy to achieve a more favourable investment condition for venture and risk capital and to remove some of the costs of employment.

Government did not play a role in propping up old industries, delaying their retirement or renewal. Renewal became the name of the competitive game and experience showed that many more enterprises and jobs resulted from the renewal process than could have been saved by deferring the inevitable and subsidising an uncompetitive company or industry.

Despite US inconsistency early in the period, and despite strong domestic resistance to tariff reduction in some sectors, Australia continued to support ongoing opening of trade in policy and practice and were active participants in the WTO and the 2000 and 2003 trade rounds.

Australia’s role in international affairs became more significant, and certainly more significant than its small population base would suggest. This was because of its trusted role in Asia, especially with respect to China, which had a difficult period when it first joined the WTO.

East Asia continued to be the most important region for Australian trade, although Europe and the US grew as a proportion of total exports.

In 1999 Geoffrey Barker of the *Australian Financial Review* asked: ‘Can Australia, a country committed to free international capital flows and maximum labour mobility, consistently lock out the wretched human beings who continue to arrive on our doorstep illegally?’²³ Australia took the moral and ethical question to heart and the new millennium saw an orderly expansion of Australia’s immigration program targeted at skilled migrants.

23 Barker G ‘Port of no recall’ *Australian Financial Review*, 9 June 1999, p 16.

Organisation of business

Global organisations

Multinational and global corporations were a natural outgrowth of increased direct investment, and in turn have had a profound impact on global trade. In 2015 global corporations are free from national control, employ more than 1 per cent of the world's workforce and control about 10 per cent of the world's GNP.

The 'physical' has become less and less of a consideration. Some giants in 'new' industries are everywhere and nowhere, meaning they have global reach but no physical head office. They may, for example, be major players in e-commerce which sell goods online but have no warehouses or trucks for distribution.

Before, the economy was driven by physical processes — now the dematerialised flows are knowledge driven.

The structures of these giants now look more like a huge web than an hierarchy. Skills in global supply chain management, global organisation, global brands, information and communication platforms and knowledge are key challenges in these organisations.

The new archetypal actors are now threefold:

1. New infrastructure masters like Microsoft, Nokia and others.
2. New territorial masters who make territories important nodes in the global web. They ask themselves 'how do we become a good home for value creation?' Locations compete to become preferred gateways to markets and customers. Geographical position is not enough. It is about creating the conditions to become powerful value creation homes, and creating an identity is an aspect of this.
3. Global prime movers who are organising a global web of co-production. Their thinking on markets and competition is global. This global configuration has only two anchors: the human body and information technology. Talent moves around the world. If you don't play in the best team you can't aspire to be the best. Your context determines what you are, and become.

In this new world companies decide and governments have lost control. Local excellence is based on globalisation. There is no geographical base that governments can try to influence. Governments need to understand that the old game is finished and their attention should now go to the question: how do we become a good home for value creation?²⁴

Flexible organisational structures

Privatisation and competition policy around the world has seen both the break-up of large monopolies and mergers and acquisitions and innovative joint ventures around the new opportunities. In the last years of the 20th century, Australia topped the world in mergers, propelled by Victoria's privatisation program. While

²⁴ Norman R as reported by van der Heijden K *GBN Business Concept Innovation Meeting*, Zurich, 6 July 1998.

many of the mergers and acquisitions involved overseas companies, Australian companies were active participants and the Australian services sector was active in advisory roles. This experience positioned Australian companies well for a role in the opening economies of Asia.

The competitive nature of all enterprises, especially those which had previously been protected by physical assets and distribution infrastructure, meant that both large and small enterprises organised themselves in globally networked structures which drew on the best competencies from any part of the world. This offered many commercial opportunities to Australian small and medium sized companies. These companies were able to participate in large global networks on the basis of specialised competence in areas such as technologies, knowledge, relationships and the strong location advantages inherent in the Australian legal, corporate, government and accounting systems.

Rules of the new technologies

Who sets the pace?

The rules are written in the US. The US market is so large — it established an unassailable position in internet business in the early years. Its strong economic position moving into the 21st century meant that private investment in research and development and technology commercialisation, as well as acquisition of strong technology-based business from around the world and relocation onto US soil, kept it in advance of the world. Australian regulators and policy makers were fast to realise the potential of this new online era. Australian governments updated their technical standards and regulations to enable a world competitive online and communications industry to flourish.

For the past 15 years, the US has set the standards that define emerging 'knowledge' industries such as biotechnology, software and the internet. But something important and radical started happening in 2010. The youthful markets of India and Indonesia started stealing the new technological territory — a consumer value oriented territory which derives from the enormous energy coming from these huge, young markets and workplaces and which contrasts with the techno-orientation we have come to expect from the US. Globalisation is enabling this transition. The speedy observation of global development, the free flow of capital and the way investors and companies move around the globe have given great strength and momentum to this exciting new wave of economic activity expected to be realised by 2020.

Who are the major players?

New infrastructure masters

Microsoft, Nokia and others have maintained their position in global systems and software. The global mega telecommunications companies emerged in 2005, supplying communications infrastructure. The nature and global scale of these giant international carriers left open opportunities for highly customer focused specialists to service offices and the home. By 2005, 80 per cent of voice traffic was carried over mobile networks and individuals were able to choose from a range of access technologies that were designed to enhance their work related and household value creation processes.²⁵

New territorial masters

With the role of making territories important nodes in the global web, the 'new territorial masters' offer specialised competencies in, for example, supporting research or financial markets, or creation and support of new business. Silicon Valley continues to exist as a concentration of new high technology enterprises.²⁶ The difference today is that there is a more deliberately focused effort and ongoing management of the

25 Budd P et al quoted in Bryan M 'Stand by for the age of the mega-telco, says survey' *Australian Financial Review*, 12 May 1999, p 24.

26 Audretsch B 'Agglomeration and the location of innovative activity' *The Oxford Review of Economic Policy*, 14 February 1988.

key ingredients in the mix of inputs to value creation, in order to retain their position against the onslaught of new ideas and energy coming from the youthful and energetic nations of Latin America and Asia.

Global prime movers

National economies are now only a relatively small part of the score card for trade and investment. Huge multinational corporations and global organisations continue to dominate the global economy, challenged only by the huge and growing Chinese diaspora. Nevertheless, the top 100 companies continue to change from year to year. Challenges from new enterprises in this highly volatile global economy and new partnerships and acquisitions keep the list refreshed. Australia has succeeded in forming alliances that keep a significant number of Australian companies on the same team as the global prime movers.

The major internet companies formed in the 1990s and strengthened in the last years of the 1990s and the first years of the 21st century held unassailable brand and market positions.

What technologies and for what purpose?

The internet and online economy has met all expectations in achieving a connected, knowledge intensive society and economy. Information and communication technologies had yielded up many but not all of their secrets by the end of the millennium.

Convergence of computing, telephone and television has been achieved in the home, at school and at work. The pervasiveness of screen-based information and communication technology is a determining characteristic of this scenario. Blurring of the definitions of media, information, entertainment, education/learning, shopping and communication has seen old product and service offerings and infrastructure disappear along with the companies that delivered them.

The creation of a sophisticated and efficient online economy and society has also seen rationalisation of the services offered in the physical world. Public outcry accompanied the decline in physical delivery and transformation of services. These were soon replaced by a new breed of companies who redefined the logic of the physical world and delivered physical services to a level of customer satisfaction never experienced before.

Commentators noted that the capacity of the technologies exceeded the capacity of our social imagination to apply them beneficially for individuals and society. Perhaps one of the key features of the emerging information and communication technologies was the way individuals and societies were able to find applications for the technology which the technologists had not envisaged. The internet was one such development but more were to come. Television became a key one-to-one communication tool and community 'newspaper' long before companies were able to commercialise broadcast shopping channels. The ability to manage information emerged as a feature of the information economy and many new intermediaries were built around the interface of online and real world transactions and communications.

The 1990s were a period when society became excited by the convergence of computing, television and telemetry. But further convergences were to come.

Convergence of technologies made the nomenclature dated and we have grouped the applications or 'reverse think' features of the bundled technologies. The three main 'reverse think' phenomena are given the labels:

- smart;
- before; and
- small.

Smart

Perhaps the most important development coming from the world of electronics and new materials can be labelled as *smart*. A smart material senses a change in the environment and responds by changing one or more of its property co-efficients. Such a material can tune its sensor and actuator functions in time and space to optimise future behaviour. With the help of a feedback system a very smart material becomes smarter with age — something human beings strive for!

Smart technologies took many forms:

- sensors, new materials, bio materials, chemistry, all built into interconnecting systems of stimulus response reflexes in any number of applications;
- smart medical systems for the treatment of diabetes with blood sugar sensors and insulin delivery pumps;
- smart aeroplane wings which achieve higher fuel efficiency by altering their shape in response to air pressure and flying speed;
- smart houses with electrochromatic windows that control the flow of heat and light in response to weather change and human activity; and
- smart water purification systems that sense and remove noxious pollutants.²⁷

Smart decision systems enabled organisations with internationally distributed operations to be agile with good and speedy decision-making. Initially only the larger companies derived any advantage from this because of the cost and complexity of installation and implementation. Costs inevitably fell and small and medium enterprises were able to keep pace. Small to medium sized organisations were particularly supported in implementing global supply chains and networked ventures and the smart system usually formed part of the contractual obligations for all parties.

Before

Genetic engineering enabled the logic flip of *before* instead of *after* when it enabled society to breed-in characteristics such as pest resilience, rather than killing the pests later with the help of sometimes harmful chemicals. The logic is widely applied in: waste management; all breeding (whether plants, animals or humans); and in all construction activities of urban developments, offices, homes and factories. In fact, so strong is the logic that these aspects of human activity are now regulated so that recycling, re-use and full lifecycle costing is fully accounted for in costs and benefits of any new economic activity.

²⁷ Newnham R, Data Materials Research Laboratory, Pennsylvania State University.

Small

Materials science, high capacity processing and engineering knowledge has progressively led us closer to the dematerialisation of society. Advanced technologies have considerably aided this, with things as simple as the electronic personal identifiers that replaced smart cards (which in turn replaced cash, credit cards and the like) or new lightweight materials used in automobile construction. This thinking was embodied in the work of Professor Rodney Brooks at MIT's AI laboratory, who first built and was involved in the commercial application of very *small* or micro robots. Based on the principle of an ant instead of a human, Professor Brooks' robots are now part of everyday life, cleaning arteries and electronic equipment, carrying out surveillance and patrolling Australia's coastline.

*Impacts on society*Reduced numbers of traditional jobs

Technology has finally delivered the promise of reducing work. By 2010 all of the work that needs to be done in the US, Europe and Australia can be done with 70 per cent of the current workforce. The need for workers is declining with the use of information technology and the replacement of workers by automation. Many companies are becoming adept at substituting mechanical labour for human effort, driven by the need to reduce costs and improve productivity in an increasingly competitive global marketplace²⁸ (see *Figure 1* p 22).

However, it was not all bad news.

Even as a generation of products and services became cheaper and new products quickly lost out to cheaper copies, consumers moved continuously to the next generation of products, services, brands and value offerings. Australia had shown itself to be a leading customer for IT and communications technologies during the 1990s and in the vital years from 2000 to 2005 was able to capitalise on that (see *Figure 2* p 22).

In more structured work situations and economies such as Japan and Germany, the answer was shorter working weeks, job sharing, extended family leave offerings and salary splitting.

Technology reduces the cost of goods

The microprocessor has turned out to be the greatest equaliser in history. The microprocessor has helped manufacturers produce goods of increasing quality at decreasing prices. One-time luxuries have become common in modest homes.²⁹

The online economy reduces the tyranny of distance

Technology was a key force in diminishing the number and degree of rural ghettos — a threat early in the 21st century — by removing the threat of distance and increasing the opportunities through online delivery of education, training and enterprise development skills. The technological capacity to deliver this

28 Coates J (Coates and Jarratt), GBN online discussion, June 1999.

29 Murdock D 'The poor getting richer in the US' *Australian Financial Review*, 13 May 1999, p 20.

Figure 1

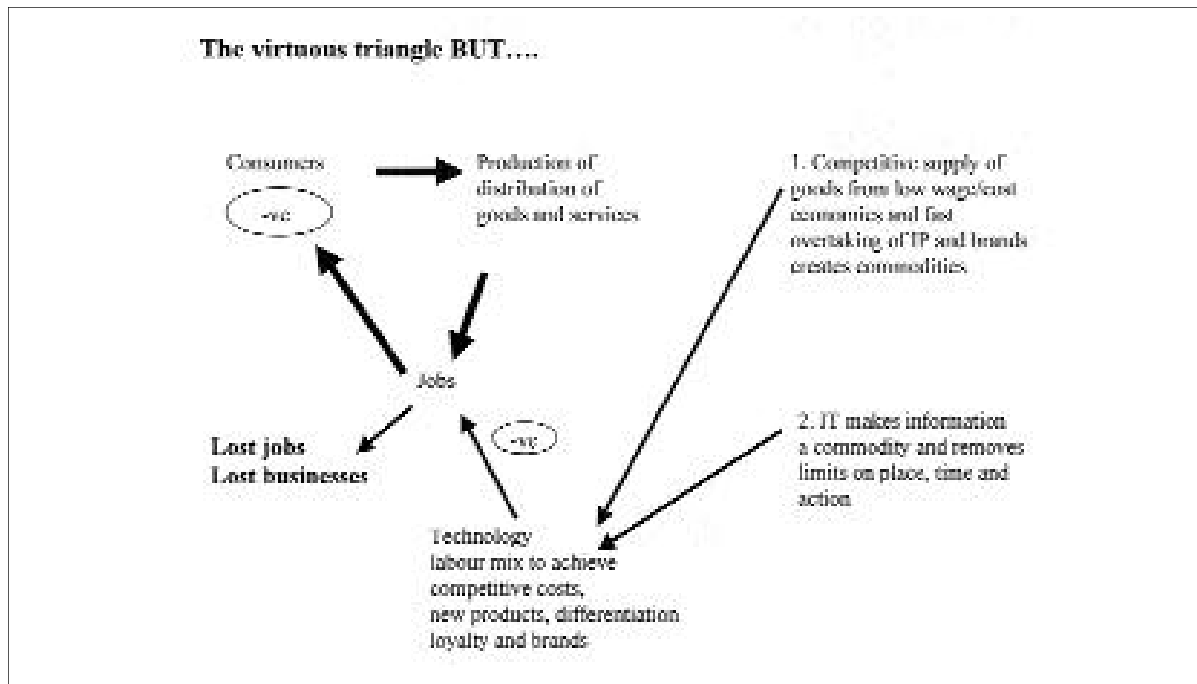
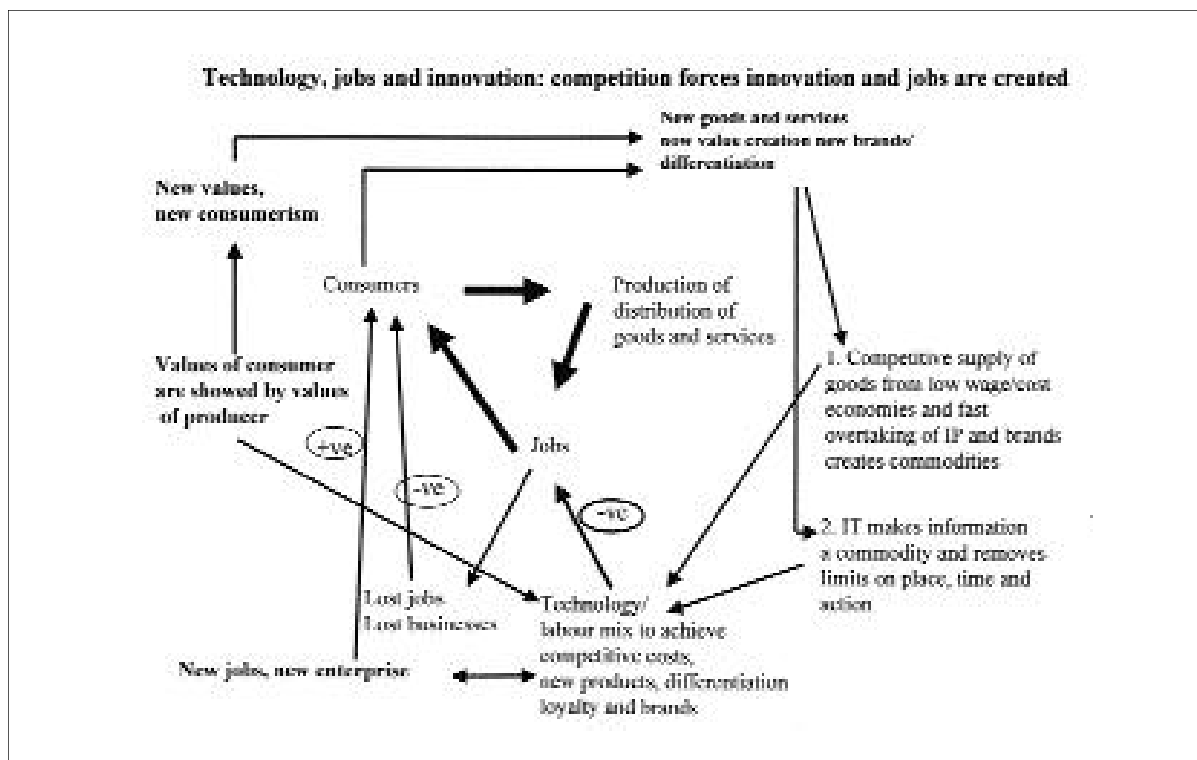


Figure 2



benefit and the infrastructure to support provision of quality distance communication and other services really became available at the right cost to the population in 2003 and was pervasive by 2005, when Australia's success in the global knowledge economy became visible to all.

Online connectivity continues to grow globally and in Australia because it is delivering more value and because both equipment and access costs have been reduced by increased competition. Screen-based technologies become pervasive for communication, information, interactivity and broadcasting. Disparities existing in 2000 in terms of access costs and availability of technology have disappeared. Australia is witnessing population increases in satellite communities and jobs are being created in these satellite towns.

However, the same is not true for distant communities. Organisation of the community of ideas and enterprise demonstrated by the success of Silicon Valley could be achieved in populated centres close to cities, but was impossible to achieve in remote areas. Australia organised a system of networked satellites around the major national and international transport hubs working out from the eastern cities of Sydney, Melbourne and Brisbane.

No market mechanism to redistribute the benefits of technology

The main beneficiaries of technology remained the developed nations for the period to 2015. Only now are the longer term benefits of increased access to education and training online and increased access to knowledge and informed opinion being realised by developing nations. Nobody, however, believes that the issue is anywhere near being solved; huge numbers of rural poor remain in fringe areas of China, in many parts of Africa and, to a lesser but often politically significant extent, in pockets throughout the developed world.

Drivers of business formation and growth

Internationally

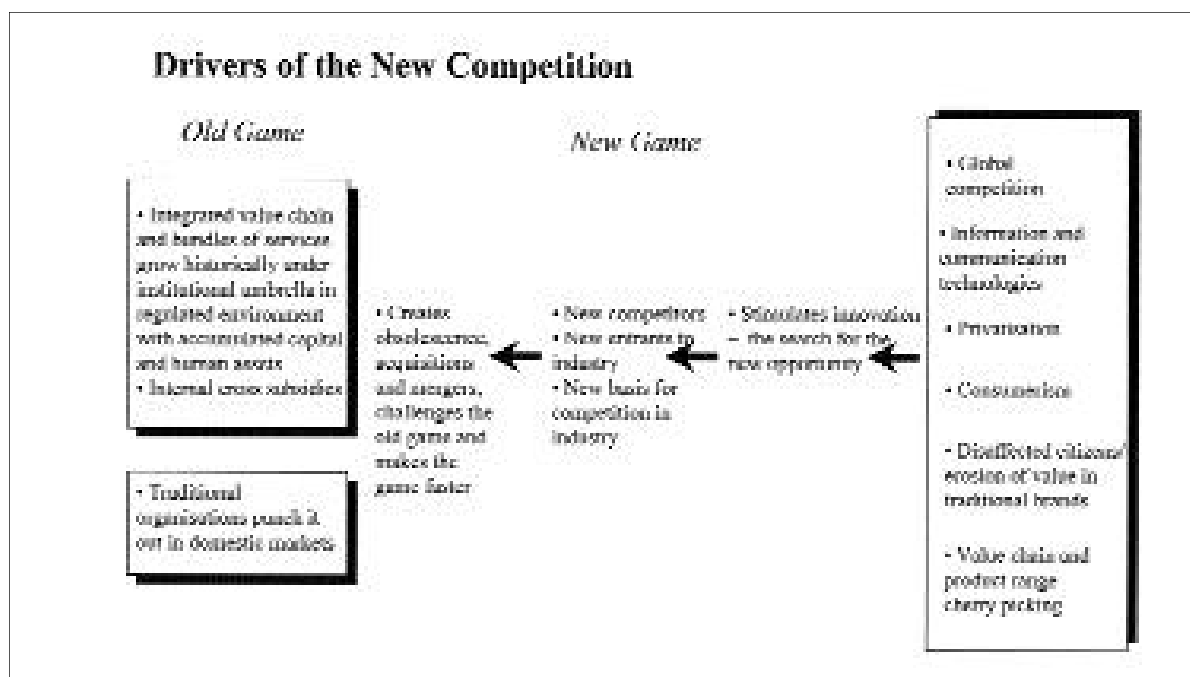
The confidence and bankrolls of the entrepreneurs were fuelled by the surge in sharemarket prices for net stocks in 1999. Entrepreneurs cherry-picked profitable businesses from the traditional value chains, competing with agility and high levels of innovation. The new competitive game is fast and involves quick innovation cycles. It uses information and communication technologies in constantly improving information feedback loops which are extremely customer centric. It is being played by small and medium sized companies who operate across international borders in their supply chain and markets (see *Figure 3* page 24).

Technology

The internet and consumerism have been the dual forces that have driven the world economy over the period. New media for information and communication, biotechnological developments and new energy technologies have also had significant economic impact on what economic activities are located in Australia.

New consumerism drives expectations of business and governments: connected individuals hunt bargains and new products and ideas online thus applying pressure and exerting influence on the way goods and services are designed, brought to market and disposed of.

Figure 3



Online

The US developed an unassailable position early in the internet years. Australia built support and secondary roles in niche areas linked to the major sites. Australia supported free trade on the web for digitally transmitted products such as music, books and film, and these goods were mainly sourced from major markets in the US (and Europe to a lesser extent). Australia's position in these markets is to identify and service highly specialised, often small markets out of the mainstream.

New enterprises

The online economy spearheaded many new technology based businesses, often overthrowing or simply challenging the profitability of traditional industries and industry structures. Australia was as good as anybody else in identifying new opportunities, particularly in services and in designing and going to the market with globally competitive offerings.

Logistics and transport hubs

Driven by the huge movements of goods around the world and the way e-commerce changed structures of business, Australia built considerable capacity in logistics and transport and became the major hub into East Asia.

The effect of transport hubs has made some provincial cities lose business, for example Adelaide, where the fast corridor to Melbourne has moved the national distribution business away. Other cities, such as Brisbane, are strengthened by efficient airfreight, customs clearance and goods handling procedures and good infrastructure, making this port a competitive Asian regional hub.³⁰

30 Above note 2.

The transport industry has become multi-modal, and the privatisation of Australia's transport infrastructure has aided the transition of this sector to an efficient and competitive structure.

Environment

By 2010 the major automobile companies were producing a new generation of vehicles that were electric drive and based on fuel cell technology. Australia's automotive component manufacturers were part of the action, providing specialised parts, ongoing research and development investment and technical skills.

Australia also participated in development and commercialisation of distributed power; that is, a system of small, local power generation plants. Strong momentum to do this came from investors in Australia's power generation facilities in the 1990s. These investors had made a hefty capital investment and subsequently found it difficult to make a return from the power market even in the medium and long term. Investors drove an aggressive search for additional business opportunities.

Biotechnology

With a small but excellent scientific research capacity in biotechnology and its multiple applications, Australia was a net exporter of knowledge in pharmaceuticals but was also able to find strong applications for the outputs of research in the Australian food industry. A reputation for clean and green produce, along with a growing demand for food imports in some Asian nations and an efficient transport infrastructure, made for a successful food industry.

Genetics

As for biotechnology, Australia had a small but excellent research capacity in genetics. The competition for Australia, however, came from massive investments overseas. This meant that the building blocks of knowledge in this area — the genes — were owned by overseas, US and European companies. The path forward for Australian companies was in service applications, building on our reputation in medicine with worldwide markets using online technologies. Good relationships between research institutions and the private sector enabled speedy transfer of knowledge and effective commercialisation processes.

Skills for the new economy

For many Australians the skills and acumen required to 'make it' in the knowledge economy remained difficult to acquire until there was a radical overhaul and upgrade of the education and training system, beginning in 2000.

A skills shortage that developed in the latter part of the 1990s became one of the great impediments to new industry formation and growth in the new knowledge economy. Australia had moved from a low-tech society to a high-tech one and cancelled out the jobs of many people over 40. Australia did not then have the strategies in place to skill or better the skills of Australians in the new technological climate. Shortages in the 'blue collar' (now known as the 'casual collar') sector were blamed on lack of apprenticeship schemes by major

traditional employers, which had gone through downsizing, rigorous restructuring and in some cases, privatisation.³¹

In the 1990s industry restructure in Australia brought about neglect of learning, education and training. Industry restructure meant that in many sectors, there were fewer large companies as companies downsized; outsourcing fed the growth of the small business sector; retrenchment also fed the small business sector and all of this led to less capacity for industry to pick up on the training responsibility. At the same time, apprenticeships were abolished or reduced, traineeships reduced and the previously large role of government in employment and training rescinded.

Australia ranked well alongside other OECD countries in terms of the number of tertiary graduates. However, the health of and future prospects for the Australian economy depends on the capacity of the total workforce to match or improve on the education and skills of other competitor economies and the issue for Australia was that a large proportion of the population was poorly prepared for participation in knowledge intensive work.³²

In 2000, business and government took on the serious business of education and lifelong learning supported by a willing population. Learning when, how and wherever you want — the notion of the autonomous learner — became the norm and achievable for most people.

Without a strong manufacturing history and the sunken investment in manufacturing assets, and perhaps even responsibilities to national governments for employment, Australia had a comparative advantage as it entered the knowledge economy. By 2005, the benefits were being felt and it was evident that Australia was poised to succeed in creating and retaining quality jobs and innovative enterprise.

Knowledge

Knowledge was recognised as key to Australia's participation in the new economy. Australia had traditionally invested large sums in public sector research and development and had encouraged private sector research and development through tax concessions and targeted government support programs. Leading into the 21st century, Australian governments encouraged Australia's participation in the online economy and, in some instances, became itself a leading edge user and practitioner in the use of information and communication technologies. Australians were quick adopters of technology and OECD statistics recorded Australia among the leaders in the uptake of communication and information technologies. Such initiatives positioned Australia well, but a breakthrough was still required in transfer of know how from universities and public sector research and development institutions to the private sector. The breakthrough was attributed to the development of an enterprise culture.

Immigration

Australia embarked upon a strong targeted immigration program based upon encouraging and fostering talented immigrants as well as taking our fair share of refugees.

A significant shift also happened in the flexibility of visitor entry to Australia. Skilled workers were given a warm welcome and extended visas.

As has been demonstrated time and again in Australia, the ethnic and youthful mix has added to the vitality of the economy and to the cultural diversity and exuberance of this young country. Language and cultural knowledge and understanding added to the competence of Australia in trade and leadership in world forums.

31 Llewellyn M *Australian Financial Review*, 28 May 1999.

32 Curtin R 'Young people's transition from education to work: performance indicators', Report to Dusseldorp Skills Forum, 1999.

An enterprise culture

While it was largely a generational and ethnic effect, Australia did make a concerted effort to achieve an enterprise culture and the effort paid off. Reforms in the education system saw the introduction of enterprise skills — innovation, strategy, creativity, insight, foresight and imagination — and strong integration between learning, work and community. Australia understood that success in becoming a 'new territorial master' — that is, becoming a good home for value creation — required attention to all of the elements required for innovation: capital, skills, ideas, technologies, business experience, risk taking culture; confidence, access to leading edge customers, and a complex interactive commercial system. Australia created the critical mass from the base of excellent technical education and research and development, to which was added enterprise skills and rewards for risk — an economic structure that attracted venture capital from around the world.

Economic structure

Key elements of Australia's economic structure that supported its ability to compete in the 21st century economy were: a low cost business environment; access to well priced, appropriately patient venture capital without excessively onerous performance requirements; quality, technologically literate boards of directors, investors, analysts and media; a pool of experienced entrepreneurs; and an internationally attractive and competitive taxation environment.

Reform married with activist industry development

Australia continued an aggressive program of privatisation until 2010. This, along with outsourcing, made its public sector one of the smallest in the world and combined with competition policy made it one of the most efficient in the OECD. This freed up government resources to act as a potent catalyst to create the climate and the opportunities for businesses in Australia to take up the challenges of the new knowledge economy.

Government recognised that knowledge-based industries, not raw materials, were the way to wealth creation. Following the Action Agenda approach of the Federal Industry Department in the late 1990s and the Innovation Summit in early 2000, the Federal Government put in place 'Action Agenda 21C', backed by the business, government and education sectors. Important components of this were: financial support for new infrastructure to produce or broker new enterprises and linkages across industry 'systems'; creating new global brands as well as a global brand reputation for Australia as the vital place for new 21st century opportunities; producing clusters of excellence in the new high tech industries; and boosting the relevance, international quality and accessibility of all levels of education.

With their experience in outsourcing, governments had developed sophisticated skills in specification which facilitated innovation by suppliers and led to new products, services and ways of doing business. Further, all outsourcing contracts contained explicit requirements for skills and technology transfer to boost local industry capability. Governments undertook reform processes in the key sectors of health, education, transport and government information and delivering systems, and as a result became a leading edge customer for the IT sector and provided impetus for new enterprise and areas of world competitiveness. One of these was the health sector and as a result Australia was well positioned to deliver many highly demanded services into the ageing European, US and Japanese economies.

Finance and capital markets

Australia discovered in 2000 that when there is a global flow of capital, open markets and an open society, there is always more money than deals. Lack of skills in the venture capital companies to assess the risk and support the growth of the business, and in management to build and secure the future for a start-up business, was the major restriction on the successful attraction of venture capital to Australia. As discussed already, Australia took the steps to avoid scarcity in skills necessary for the knowledge economy and by 2005 was showing every sign that it was on the right track. By 2010 there was a thriving venture capital industry and thriving sector of knowledge businesses. These businesses have continued to attract capital from overseas as well as Australian investors.

The service sector in Asia has become a very important user of venture capital.

Location of Australian business

High-tech successes follow capital and markets and proximity to where it is happening

The internet market is global, but its industry remained provincial until 2005. Until that time, personal networking was a prerequisite and the big deals were being made where the money and markets were made — in the US.

Until 2005 shortage of skills to exploit the internet economy meant that there was more money than ideas and business propositions, which kept the power where the money was located and in the hands of the insiders. The provincial attitudes of the US meant that in the main this was preserved in the US — more specifically two or three sites in the US — with 'long distance' meaning Virginia or Georgia.³³

Australia struggled to keep technology-based start-up and growth companies during the period prior to 2005 and many Australian exports were to the US and were successful small high growth businesses. In the early days, the reasons given for this exodus included Australia's tax system, which was considered anti-entrepreneurial and anti-technology, and easy access to US risk capital in a marketplace which was more welcoming and informed on risk.³⁴

The government addressed these uncompetitive elements. The innovative and vibrant culture, attitudes and critical mass necessary for successful high-tech start-up business developed out of the private and public sector investment in research and development, incubators and strategic procurement programs. Perhaps more potent in the mix was the input of highly skilled and entrepreneurial graduates, an attitudinal 'can do' coming from Generation X and leading edge consumer behaviour in Australia for high-tech which made Australia a natural test market.

Until 2005, business wasn't the only export. Silicon Valley, and indeed the US generally, along with the UK and Europe, consistently offered salaries and financial rewards at a higher level than was achievable in Australia. The US raised its quota of technology recruits from other countries to 200,000 per annum, creating a brain drain from Australia of highly qualified technically skilled individuals.³⁵ In doing so it also enhanced its cultural diversity — one of the vital ingredients in the Silicon Valley success mix.

Lifestyle issues are important to people who are able to make choices as to where they locate their business and themselves. A positive outcome of both the company and individual brain drain was that Australia remained a powerful attractor and an expatriate industry built in the US has returned investment, skills and people to Australia, especially after 2005.

33 Crowe D 'Small town gang that's changing the world' *Australian Financial Review*, 12 May 1999, p 13.

34 Crowe D 'Exodus: Why Australia's high-tech champions are leaving the country' *Australian Financial Review*, 31 May 1999, pp 32-33.

35 Meredith H 'Net-talk: it's just mouthing off' *Australian Financial Review*, 3 June 1999, p 42.

By 2005, with technology achievements and the pervasive superhighway, the physical location of business activities has become increasingly irrelevant, both in terms of time and space, and online communities achieve high levels of interactivity and high touch not achievable with keyboards and computer screens.

Once the tyranny of distance was finally removed, lifestyle issues became important to those people engaged in economic activity and therefore able to make relatively free choices. Australia has had no trouble in attracting such people to live here. We have the environment, the attitudes, the lifestyle and a good health and education system and we now recognise the intrinsic worth of these assets and are investing in them.

We develop high-tech lifestyle industries we never knew we needed

The determination of Generation Xers to be successful entrepreneurs, and their love of lifestyle and experiential leisure activities, has been a great combination. In the face of aggressive global competition and rapid copying of brands, products and services, they developed amazing new enterprises. Bungy jumping was a small beginning. Adventures at the edge of space, free falling then parachuting from the edge of the hemisphere, were the kinds of high risk, outrageous, highly commercial and well organised new businesses created during the last 15 years. Many of these began in Australia which had traditionally been a source of adventure businesses, many globally successful, in the vein of Lonely Planet. All of these businesses had strategic online communications characteristics.

Bases of success of business

Brand and reputation

Key success criteria for business are globally recognised and valued brands and reputations. Most organisations have a physical and online presence for their brands and their organisations. These organisations are adept at creating new goods and services in either environment and shifting these successfully from one into the other. In this continual creation and transition process, brand is critical. Australian companies have concerted to develop global brands in a clever mix of real world and online strategies capturing the Australian lifestyle myth.

The new online 'chattering class' keeps a close watch on corporate transgressions and quickly communicates breaches. This sort of consumer-enforced corporate 'self-regulation' has replaced large parts of the regulatory role of governments.

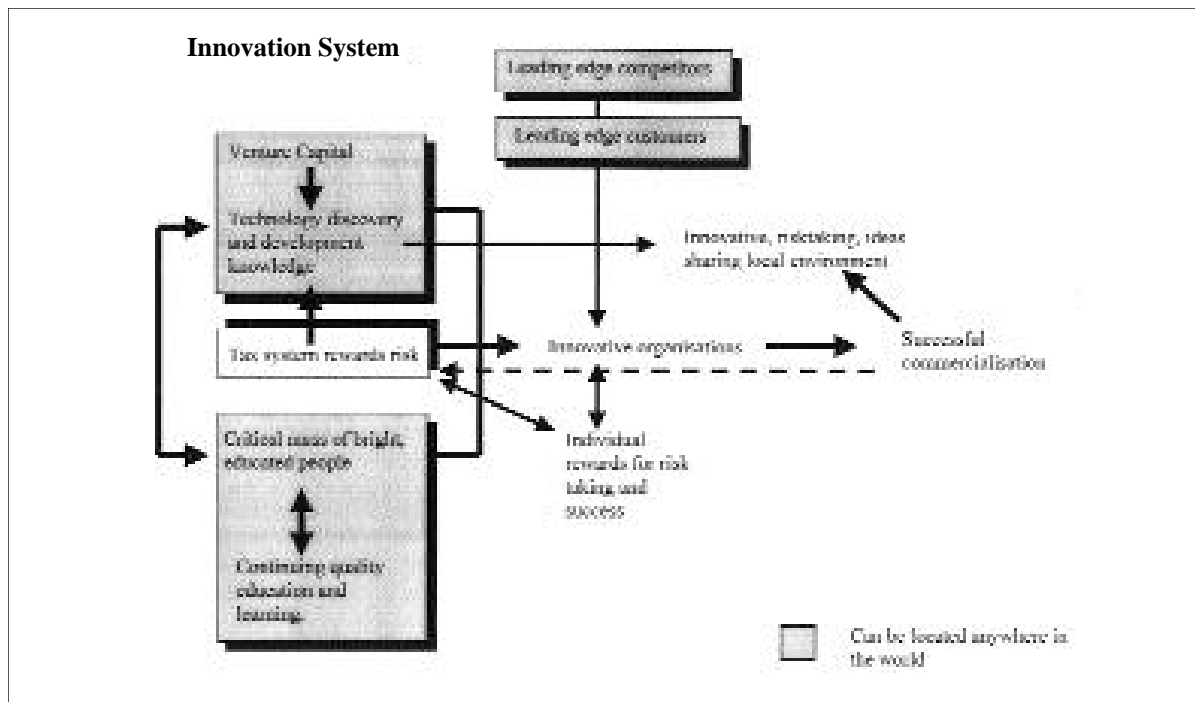
Innovation

The ingredients

Innovation is critical to the ongoing success of business. In this globally connected world, however, many of the resources for successful innovation can be sourced from elsewhere in the world. A necessary precondition for innovation and investment in Australia was achieved with resolution of the capital gains tax issue in 1999. Industry recognition of the need for technology has fuelled growth in privately funded research and development capacity, a further precondition for location of innovation activity in Australia.

The innovation system diagram (Figure 4 p 30) describes the necessary conditions

Figure 4



for innovation, reminding us that many elements can be supplied from anywhere in the world. But they need to be attracted and rewarded at the enterprise level, and able to operate in an environment which is populated by like-minded individuals and enterprises — an environment of risktaking, ideas sharing, innovation, success and failure. Exposure of companies to leading edge customers and leading edge competitors is also a potent and vitally necessary force in the system.

Government

Governments' outsourcing policy, begun during the 1990s, was a driver of change and new enterprise. Governments gained skills and expertise and became more confident in working in partnership with the private sector to come up with improved, less rule bound or process specified and hence more productive approaches. An article in *Harvard Business Review* in 2004 described Australia's approach to outsourcing and privatisation as leading the world in terms of the efficiency, productivity, improved levels of service and lower costs of government achieved from the new arrangements.

Research & development

The 1990s were a hard decade for Australia's public sector research organisations. It was a time of reduced government funding, of pressure to commercialise and of cultural changeover from institutions of science and research to institutions of discovery and commercialisation. The lessons were learned, but not without discontent. One lesson was that government funding could not be relied upon and so funding had to come from relationships with other research institutes around the world and through relationships with the private sector — and that money from the private sector was going to be very results oriented. Some great breakthroughs and commercial deals were achieved which in large part came from co-operative research centres which were joint ventures between researchers and industry.

Manufacturing

Not all innovation in manufacturing came from research labs. Innovation in brand building and marketing

also occurred. The Australian concept car was a great example of this, as was Blundstone Boots, which linked their product with the highly internationally successful dance theatre, Steel City. Other areas of innovation were: design (such as Australian surf wear designer and manufacturer Mambo); logistics and distribution; packaging and promotion; and innovative use of the internet.

Mining

Some of the most innovative software coming out of Western Australia was developed for the mining industry, an example of which was software for exploration, planning and logistics. When pressure was placed on the minerals processing industry to reduce the use of energy, the mining industry became closely associated with ventures to process at lower temperatures and use alternative energy sources.

Services sector

Without the investment in research and development infrastructure which already existed in the manufacturing, mining and agriculture sectors, the services sector had to define just what innovation was for their sector, how it could be formalised and how the knowledge could be transferred effectively and commercially. Australia identified the need for a focused effort in developing the sort of minds required to create the new industries and opportunities in the 21st century, and designed curricula and a pedagogy to achieve just that.

Competing globally for consumers

The ability to be globally competitive is a prerequisite in this scenario. This highly connected and highly informed world moves money and information so quickly around the globe that there can be no secrets and no false competitive advantage from early or imperfect knowledge. Companies everywhere are exposed to competition from similar companies in other parts of the world. It is an Olympic Games every day; a battle of elite companies to provide the products and services the consumer wants in the time and space the consumer desires.

Consumerism is exploding. Supermarkets used to trade 40,000 products; now they trade 400,000 products both physically and online, using the most sophisticated computing and logistics functions. But the sheer volume of products has created niche opportunities; specialty markets within the stores are met by product specialists and this level of specialisation has become increasingly refined and niched. It is common to find the big brand stores which provide foods to meet any taste or critical medical or religious requirement, for example, 'kosher' foods, or 'clean' or gluten free foods. These niche products are in turn supplied by integrated niche suppliers able to guarantee the quality of the product, provide after sales service, product replacements and often supplying a skilled retail worker to ensure best representation of the product in the store. All stores operate both online and physical environments, 24 hours a day, seven days a week, and all of these supply and service elements work effectively in both environments.

The knowledge economy

The knowledge economy is in full swing. While ideas and discoveries are difficult to protect legally, knowledge and the production of ideas are the competitive advantage of an organisation; it is the core competence of most organisations and is applied across the value chain. Therefore companies act to protect IP by

adding layers of unique competence to the business in service, customer relationships, logistics, brand and company prestige.

The most progressive companies report on knowledge application and ideas development in their annual reports and note a key performance indicator in their ability to continually reinforce and renew the knowledge intensity of their organisation.

This shift includes long term thinking.

Australia has engaged in actions to make mature industries more innovative using all of the advances of the information revolution and technological breakthroughs, and is now competing on non-price factors. In particular, a mammoth and innovative effort has produced half a dozen Australian brand names with international recognition.

Employer and professional associations and trade unions have redefined their role in the knowledge economy. They support their members by improving their access to knowledge, by undertaking studies of emerging and future trends and issues, and in preparing them for the dynamic ongoing change in their working lives.

Academics in Australia add tremendous value in providing independent, critical thought on key issues, often instigating debate on critical issues for Australia's future through the media and in some of the best online discussion groups in the world.

Australia is distinctive

In this scenario, Australia is distinctive because of:

- relevant and excellent skills, resulting from an excellent education system and continuing education and training;
- political stability;
- a taxation system that recognises and rewards risk;
- a national vision program — a clear national strategy continuously seeking new and better answers to what it is that we need to do to provide a good home for value creation and become a high income country, also realising our international community responsibilities;
- leadership coming from business, academia and government; and
- deliberate and systematic activity to boost Australia's capability, particularly in high growth, knowledge-based industries.

Society

Disruption in social values

During the 1990s the nature of people's involvement with one another changed — although there is no evidence that people associated with each other less, their ties tended to be less permanent, looser and with smaller groups of people. These changes were dramatic. They occurred over a wide range of similar countries and appeared at roughly the same period in history. As such, they constituted a 'Great Disruption' in the social values that had prevailed in the industrial age society of the mid-20th century. That these negative social trends occurred as the economies of these societies were making the transition from the industrial to the information era was not pure chance. The changing nature of work and new technologies undermined traditional understanding on which family had been based and the culture of

individualism, which in the laboratory and the marketplace leads to innovation and growth, spilled over into the realm of social norms, where it corroded virtually all forms of authority and weakened the bonds holding families, neighbourhoods and nations together.

In the information society neither governments nor corporations rely exclusively on formal rules to organise people. Instead they have decentralised and devolved power and rely on the people, over whom they have nominal authority, to be self-organising. This is one of the most important intellectual developments over the past 15 years — self-organisation on the part of decentralised individuals. However, the tendency of contemporary liberal democracies to fall prey to excessive individualism is their greatest long term vulnerability.³⁶

Winners and losers

The success of an elite few in the knowledge economy came at a price. This was paid by less educated individuals in isolated regions of Australia and certainly in marginal economies. These individuals were distanced from access to the connections to the elite class and, therefore, the domestic services sector, the privilege of a good ongoing education, networks of people in work, and knowledge and ideas.

Technology, global competition and removal of tariffs threatened to divide the wealth and opportunity in Australia between rural and urban communities and between educated and less educated people. In fact, the group most disaffected was the skilled person traditionally employed in manufacturing. For those people, traditionally reliant upon low skilled jobs, the answer lay in domestic services. Growth in domestic services absorbed many workers and created opportunities for new service businesses. In fact, as the economy prospered, so too did these domestic service workers, who were able to benefit in direct proportion to the wealth gains of their employers. But there was no easy answer for skilled manufacturing workers in Australia and the impacts here were felt most keenly by urban males.

In 1999, Robert Reich had promoted what appeared to be impossible, even laughable, when he said:

[T]here is only one alternative: the better off members of society have to pay up. Their taxes must be raised. Government leaders will have to broker a new social contract between those who have been winning and those who have been losing. The deal must be explicit and framed as a choice ...³⁷

In other words, Reid was proposing a form of corporate and elite philanthropy. Incremental increases in tax levels have been implemented, however, in all cases the increase has had to be linked to a social safety net reform which delivers observable benefits to personal and community safety and security.

Disillusionment is evident around the world because economic rationalism was not able to deliver on its promise of increasing GDP per capita.³⁸ Polls continue to show ongoing fear of job losses and widespread opposition to free trade.

36 Fukuyama F 'The great disruption' *Australian Financial Review* (Review), 4 June 1999, pp 1, 2, 8.

37 Reich R 'The well-off reinvent the loser-pays principle' *Australian Financial Review* (Review), 21 May 1999, p 5.

38 Quiggin J 'Neo-liberalism has failed to live up to its promises' *Australian Financial Review*, 3 June 1999, p 19.

Around the world there was fear of a backlash against open and deregulated markets but it was never felt in elections, and governments and business failed to find an alternative economic route. The Third Way, much touted in the late 1990s, was no more than a hollow promise and offered no structural solution.

The Australian values of fair play and equity took a hammering but have not fallen totally into disrespect. One of the popular topics of the well off is how the capitalist system can deliver benefits to the socially disadvantaged. Solutions range from changes in the taxation and social security system through to a rethink of market capitalism. Neither reform had been seriously addressed in an increasingly trade exposed decade to 2010, when the last of Australia's tariffs were removed to conform with the WTO. The size and profound nature of the reform required to achieve a socially just society requires a greater sense of urgency for reform than the well represented people in society feel with respect to the break down in our social fabric and the increasingly harsh plight of a significant number of individuals in our population.

As a result, economic rationalism has been shored up by politicians using a patchy mixture of tax increases alongside welfare reform, because they were not able to develop a coherent alternative. It is widely believed that a new form of 'social engineering' will be one of the major knowledge industries of the future.

Baby boomers pass the baton

The first 10 years of this millennium was the decade of the US and of Generation X — well educated privileged children of the 1970s and 1980s whose goals were to establish and lead their own business and who are now successfully and aggressively doing so. One legacy of the boomers was disruption of some of the power broking which had a stronghold on business in the 20th century and which was seen to be holding Australia back by the end of the century. Generation Xers took this on full frontal and, through their shareholder power, ousted the old and backward looking business leaders.

Generation X is libertarian: the emphasis is on individual responsibility, economic liberty and social freedom. This generation is described as rebels with a cause. Their cause is themselves. Education and natural talent are deemed the most vital contributors to success, followed by hard work and determination. They expected and were rewarded with a backdrop of a permanent economic boom — a long boom during the last 15 years. What did change was the location of the energy behind that boom, and when that energy came from various parts of Asia, Generation Xers simply changed their abode.

Generation X favour a society where the state's role is significantly smaller than it was previously. For Generation X, government is not part of the solution but part of the problem. They found the Nanny State distasteful and were quick to embrace welfare reform. Most Generation Xers expect to have a private pension and private health insurance.³⁹

In Australia, this generation has lain to rest the 'tall poppy syndrome' — unmourned. Individuality, personal ambition and thirst for power and wealth are the drivers. Generation X provided a great source of entrepreneurs and also of consumers driving the marketplace. Brands, quality and being there with the latest experience describe some of the characteristics of this generation of entrepreneurs and consumers.

Needless to say, this elite group of Generation Xers is not the only product of that generation. The hidden members of this generation are the dominant group in the unemployment statistics who live below the poverty line and are victims of poor training.

Demographics

Populations have declined in most western societies, with societies such as Italy, Spain and Germany losing 30 per cent of their population each generation. Ageing has had a profound influence on the economies

39 Wright J 'Individualism the cry of the MTV generation' *Australian Financial Review*, 21 May 1999, p 7.

of Japan and Germany, where the population has started to decline by 2015 and is expected to fall below 1995 levels in the next 25 years. The proportion of older people in the population for Australia, Canada, New Zealand and the US have been lower than European countries such as Sweden, Italy and the UK.

In 2015, Australia is experiencing the highest rate of growth of people in the population aged 65 plus as the baby boomers move into older age. Ageing is gender related, as women are living longer than men. Changes in net migration levels have made only a small impact on the median age of the Australian population.

Ageing in western nations contrasts strongly with India and Indonesia, in particular, which are experiencing the effects on the economy of a youthful population. This is also true of Malaysia, Indonesia and China, where populations are growing at rates of 10 to 12 times that of growth in the Australian population.

While 65 years of age has traditionally been viewed as the age for retirement, economic pressures, opportunities, continuing education and training and worldwide demand for skilled workers has kept some people in work long after this age. Similarly the 'deinstitutionalisation' of work, whereby individuals create their own enterprises, has meant that the line between work and retirement has blurred, with many people moving into part-time and casual work after 65 years of age.

Probably the key consideration in the demographic changes in Australian society has been attitudinal. In the mid-1980s a remarkable change came over society when people lost respect for banks, governments, politicians, big business, the Church, lawyers and marriage. In 1999 several reports confirmed that some of these institutions were at a low ebb: banks had eroded a century's worth of loyalty and intergenerational relationships; lawyers were looking for a new future; television newsreaders had more credibility with the population than politicians but high profile radio personalities were under attack for receiving money to alter their opinions; and a significant number of Catholic priests had been shown to be deviant. There was not much to believe in except yourself and your family. Statistics showed that while the institution of marriage had lost credibility, couples were staying together for the same period of time as a century previously⁴⁰ and children had regard and respect for what their parents stood for and had done for them.⁴¹

After 15 years of continuing aggressively competitive work environments, high levels of privatisation in the 10 years to 2010 and the development of a pronounced knowledge elite, the anti-institutional bias has not disappeared.

What could destabilize this scenario or throw it off course

- The US maintains a protectionist approach where it suits them.
- Asia, and China in particular, fail to make the structural change.
- The global flow of short term capital causes some economies to fail.

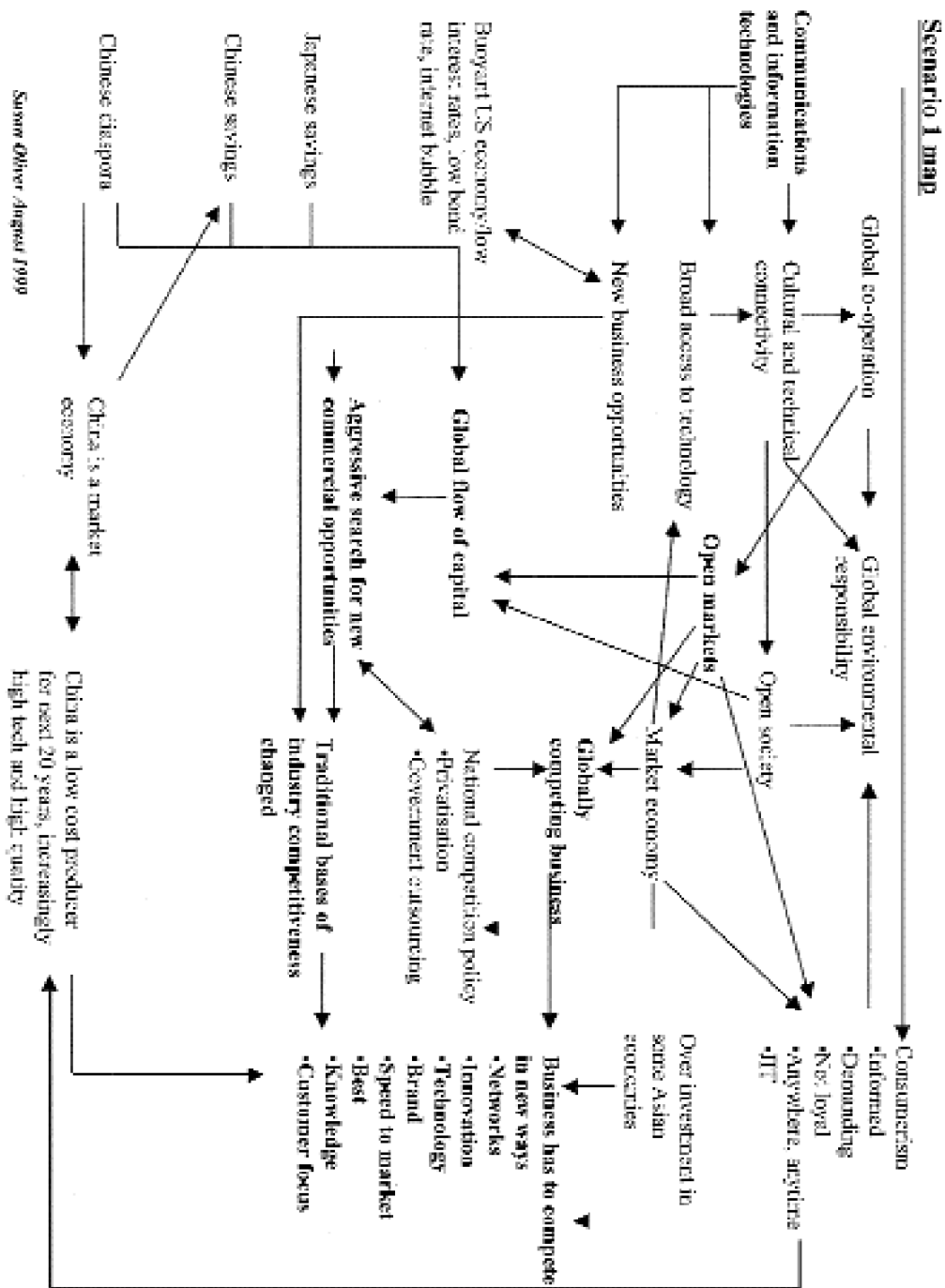
40 Australian Institute of Family Studies quoted in 'Key Demographic Indicators', Research Report to ABF, June 1999.

41 *The Age*, 25 July 1999, p 3.

- An environmental crisis or shock occurs.
- China grows and fails to manage the environment.
- The Australian environment cannot support growth.
- Businesses and governments fail to make the transition to the global economy — the Australian government fails to demonstrate competence in creating a good home for value creation in Australia.
- Australia's reform of taxation and welfare are not effectively implemented: tax reform is compromised and made unworkable; tax increases are stymied because income earners are not prepared to see their taxes squandered on ineffective social welfare approaches.
- Employment continues to be taxed and there are no rewards for risktaking.
- Social cohesion is lost to the extent that there is disruption to economic and social wellbeing.
- The Australian government caves in to protectionists.
- Tariff removal stalls.
- Privatisation of government enterprise ceases.
- Large inefficient industries and organisations successfully lobby for government support.
- Free trade on the web is opposed.
- Employer groups and unions are primarily lobbyists.
- Australian business and government fail to anticipate the skills, experience and know-how required to be competitive in the global and knowledge economy or are not able to implement changes effectively.
- Australia has the wrong skills and not enough of the right ones.
- The education and training system is not best-in-the-world.
- Education and training are not accessible to all.
- Australia cannot bridge research and business cultures to commercialise Australian discoveries.
- Australia's tertiary education sector is not funded and resourced to achieve best-in-the-world standards of tertiary education and high levels of participation.
- Australia does not grow major global companies or successful global brands, nor participate successfully in global networks.
- Australian companies fail to capitalise on opportunities:
 - for service businesses in Asia;
 - for new online business, new intermediaries, new industry structures;
 - to serve the needs of our own leading edge consumers of IT and communications technologies;
 - to add knowledge to resources industries to develop non-price competitive advantages;

- to provide a transport hub into Asia capitalising on logistics and transport support prerequisite for e-commerce;
- from the growing awareness of environment management and repair; or
- to exploit niche markets at home and abroad.
- Australia fails to develop and nurture an enterprising and innovative culture with the Australian approach to the 21st century being laconic and having the following characteristics:
 - short term thinking;
 - too embarrassed to have a vision for the future;
 - no confidence to be the best and no good understanding of how;
 - an attitude of 'life's been good so why change it — let's keep it the way it was';
 - anti-intellectual.
- Australians haven't hurt enough to change and make the courageous decisions.
- Australians don't have the mindset to take on the challenges and risks.
- Immigration amplifies the impact of population ageing and dependence upon social welfare.
- Technology fails to reduce the tyranny of distance — in Australia rural and distant regional communities cannot access the spoils of the knowledge economy. ●

First Global Nation — systems map



Sound the Retreat!

Australia really believed in 1999 that we understood globalisation and that we were on the path to achieve all of the advantages of an open world economy and open societies. We were wrong. The political and social structure was ill prepared and we in Australia witnessed a worldwide retreat from the path of globalisation. Only after some hard lessons did we again launch into world trade discussions and attempts to achieve a multilateral world order. We recognised the imperative to address social and cultural aspects as comprehensively as we address economic and environmental matters.

The lessons of the period for Australia were profound. Cutoff from equal chance of access to global markets and without the old ties to 'Mother England' or 'Brother US', Australia had to forge new bilateral trade relationships, as well as attempt to keep the existing ones solid. Trade was built on the efforts of individuals creating and securing these relationships which sprang from our multicultural society, our proximity to Asia and the energy and tenacity of a generation of entrepreneurs who pushed their way through the trade barriers and political minefields of the first decade of this century.

In a world of revived trade barriers and nationalism, we pin our hopes on business relationships, reinforced by our political relations with individual nations, and play to our strengths as a business and cultural gateway to Asia.

Sydney Morning Herald, 29 December 2010

Special Feature: The recession is history — just ask Kylie Phan Trung

Ten years into our third millennium we look at an Australian business that, despite dramatic realignments and reverses in international affairs, is paving the way to a bright decade. Forget the Gloom Times, says Kylie Phan Trung, the Boom Times are just around the corner.

Profile by Lucy Diamond

As she sips ginseng tea from a Ming porcelain cup, the pot of white thai spider orchids on her glass desk setting off her dark hair and plain elegance, Kylie Phan Trung, 45, an undisputed queen in the Australian business world, looks back on an astonishing episode of empire building.

Sound the Retreat!

The CEO of Knowledge4Life, and recipient of an OBE and an OAM, has a broad, pleasant Australian accent and a down to earth manner. Moving easily between seriousness and laughter, she exhibits the qualities of intellectual flexibility, detachment and lateral thinking which have driven her strange success-in-the-face-of-all-odds. She is at home with herself and her power.

Phan Trung credits the upsurge of interest in Buddhism in Australia in the late 90s for nourishing her entrepreneurial instincts.

'I was in the right place at the right time; as a committed republican, a sports fanatic, and a Buddhist practitioner who can relate across the cultural barriers between East and West. We have so much we can give each other — it's yin and yang.'

The daughter of Vietnamese immigrants and a graduate of Wollongong High School, Phan Trung was unusual in that she didn't take the culturally expected route of university and a profession, unlike her three brothers — respectively an accountant, a lawyer and an educational psychologist.

Instead she trained as a hairdresser and beautician, starting her first business above a shop in Glebe Point Road. 'The retail market wasn't keeping up with the advances in cosmetic surgery,' she says. The patients got home from the hospital, saw themselves in the mirror and burst into tears. They would then rush to the local beautician. Who else could cover the surgeon's tracks until the scars healed? 'But no-one was training the beauticians,' says Phan Trung, 'so I launched my first vocational courses.'

She realised that because medical advances were happening so quickly, her beautician trainees would need to keep returning for updates. Phan Trung marketed her courses as 'open ended, ever evolving' and named her business Knowledge4Life.

Knowledge. It's one thing to know that we need it — another to know how to get it.

At night she continued to study additional courses in massage, e-commerce, international law and various Asian languages, as well as what she describes as a 'grab bag of personal development trainings'. Some of them were a bit too out of this world, she realises now, but when bankruptcies, suicides and unemployment reached a record high three years ago, she was able to weave some of these courses into her vocational training programs.

'I learnt a lot that has been of great value, especially in the conflict resolution and win-win areas. I love win-win!'

Her courses were a hit — clinics even enrolled their nurses — and the now familiar Knowledge4Life learning tree logo sprouted throughout suburbia.

Next she expanded her training centres nationally, and included courses in business and IT studies.

All through the Gloom Decade, Knowledge4Life kept expanding its curriculum, learning from its 'students4life'. When her brothers became directors of the

company and began adding their own input she gained valuable highly skilled and committed executives.

Then came a miracle — Phan Trung's Asian miracle.

The new courses had been pretty basic at first, like triple bottomline bookkeeping, and a series of 'First Step' hands-on introductions to architecture, engineering and hospitality. Then, almost on a whim, she tested a course on 'Sex & Business, East & West'.

'It felt like a wildcat oil strike,' she says.

Planeloads of people poured in from Beijing. Her timing was perfect. At the diplomatic level, China was already seeking Australia's help in various socio-political areas — welcoming Australia's western know-how and independent spirit. The managerial class now swarmed to Phan Trung's SexBiz classes, seeing them as a rite of passage on their way to do business with America without becoming too Americanised.

Phan Trung credits her win-win philosophy with getting the East West fit just right.

Australia's self image is that of a country of rugged individualists, and Asia is seen as a region for whom the collective good has always been valued above that of the individual. 'There is no one way,' says Phan Trung. 'Our challenge was to find a win-win solution utilising our different styles, which we did.'

The SexBiz EastWest classes soon became famous, drawing students from Singapore to Katmandu. 'Our classes were pretty raw in those early months,' she says, 'covering everything from conversational tips for the unisex office urinal to the contractual legalities of a handshake.'

Asked how she copes with today's lack of funds for research and innovation, Phan Trung utters the magic word: 'Collaboration!' She cites her alliance with Shred4Bread, a surf school that draws in the Shanghai teenage 'Silicon Emperors' for indoor and outdoor learning thrills. Shred4Bread is independent, but it is in a loose alliance with a surfboard maker and the wacky Australian streetwear designer Hot Pants. 'Once you start collaborating,' says Phan Trung, 'the networks keep extending.' Another spin-off is snowboarding trips to New Zealand with a mudbath bungee jump. 'The kids go crazy for it!'

Australian education is favoured because of its long tradition of nourishing free thought and its lateral, free flowing teaching style. 'We teach them to think on their feet, as well as upside down.'

Now the Americans are starting to arrive. Knowledge4Life launched a second stream of etiquette courses with reversed orientation. 'The Yanks are taught the nuances of bowing, and why an oriental "yes" can often mean "fat chance".'

The original core business of training beauticians has not been neglected through

Sound the Retreat!

the dizzy phases of her firm's evolution. As an offshoot of Phan Trung's experience in grooming the cosmetically enhanced corporate elite, she recently launched a subsidiary vocational network, KarmaCare, to provide certified highly trained nannies in Asia. 'KarmaCare exudes a lot of feminine, nurturing energy, which I think people appreciate.'

It seems so. Her Asian franchises are booming, and she is integrating nanny training with English language courses, another winner. 'Don't pin all the success on me,' she says, smiling as she dabs KarmaCare's Millennial Consciousness Parfum behind her be-pearled ears.

'When all my brothers got married and brought their wives into the business — wow — that's when things really got humming.' One wife is of Chinese European descent, another a New Zealander with Maori blood, and the third is the famous actor and beauty known as Kiku Ironbark, who is of Aboriginal Japanese descent from a Broome pearling family. Ms Ironbark is now the face and spokeswoman for the continuing beauty and grooming side of the company.

All of Phan Trung's multinational nephews and nieces are used in Asian promotional campaigns, with the theme 'We're all a family' — a sentiment which engenders a warm inner glow in a world where traditional alliances are rapidly shifting, and techno-globalisation has left Australia behind, once again on the edge of the world.

It is the contribution of inspired entrepreneurs like Kylie Phan Trung which has helped position this country — for good or for ill — as 'the Switzerland of Asia'.

NEXT WEEK: Lucy Diamond on MEN! Why the poor darlings will never claw their way back to the top!

Scenario logic

This is a scenario where, in 2015:

(1) Many of the national borders that were opened to trade in the late 1990's and the early part of this century, have been partially reclosed, and this has been accompanied by an increasing restoration of tariffs and other trade barriers as many nations of the world continue to retreat from the process of globalisation.

(2) The knowledge economy, in spite of its long boom, has seen grave distortions and inequities in the distribution of its benefits — only a relatively small proportion of individuals within any nation, and a similar proportion of individual countries across the world, have benefited, and as unemployment levels and trade deficits have continued to grow, so too has social unrest and thence political opposition, to the unfettered free market economics that had been driving the process of globalisation into the early 2000s.

(3) Online technologies are greatly facilitating news of social upheavals, and political responses to them, across the interconnected information networks of the globe. In a strange paradoxical twist, international communications are supporting the rampant rise of nationalism.

The factors leading up to this dramatic turn of global events have been as complex as they have been unpredictable. In this sense there are shades of similarity with the events surrounding the spectacularly sudden collapse, about a quarter of a century ago, of the centrally planned economies of the former Soviet Union and Eastern Europe. Certainly the failure of the US to sustain its long economic boom into the 2010s has been a critical issue, but it has not been the sole factor. Other 'spoilers' that have clearly contributed in a major way have included:

- China's failure to join the World Trade Organisation, and the breakdown of relationships between the US and China that has been both contributor and outcome of that;
- the US's failure to observe those open trade/WTO agreements that it had championed for so long;
- Japan's stiff resistance to the removal of the protections it provided for its rice farmers and other import sensitive industries;
- the increasing geopolitical regional tensions in South Asia, South East Asia, Central Europe, and Southern Africa, especially associated with increasing social inequities and their impact as community dislocations — the situation has been further exacerbated by failing food security associated with the phenomenon of global warming, and the failure of the United Nations or the 'developed nations' to provide adequate relief in so many disaster zones where starvation has become rife;
- the failure of the legal, banking and other institutions in Asia, to recover from the 90s crash;

- the failure of European countries to integrate into a single market; and
- consumer boycotts and other aspects of social rejection of free market economics, as well as actual civil disobedience and unrest in many countries across the world, including Australia.

Dynamics that led to the situation

Essentially, the foundations of the backlash to the process of globalisation lay with its unequal impacts across societies. The reactions of those within countries who failed to benefit and 'were left behind' were greatly amplified across different nations through the internationalisation of the media. Globalisation, as some had earlier predicted, did indeed bring to many people 'a profound insecurity, powerlessness and a loss of community identity'.¹

As had been foreseen as a potential problem of immense proportions by a number of critical commentators more than a decade and a half earlier, in the late 90s, the development of a global society has lagged far behind the growth of the global economy. 'Expanding international trade poses a dilemma; Dani Rodrik of Harvard University had written in 1997, 'it increases the demand for social insurance while limiting governments' ability to provide it. Consequently, as globalisation deepens, the social consensus required to keep domestic markets open to international trade erodes'.²

Economics was at the forefront of pro-global arguments at the turn of the millennium. The concept of globalism offered little ideological or spiritual value for individuals and eroded the sovereignty and culture of nation states, instilling inherent instability into the global scaffold.

This situation too had been foreseen by some. Hans-Peter Martin was one of these prescient folk:

In the rush to facilitate globalisation and free trade, Western governments have compromised their ability to govern. In place of national sovereignty is the 'dictatorship of the world market' which, in order to maximise returns on capital, is forcing governments to deregulate and open up their markets, drive down public expenditure, cut real wages and eliminate social services. Social democracy is threatened by tyrannical 'shareholder value society' as fund managers, analysts and the business press demand ever more shedding and outsourcing to increase short term profits, even in the face of record margins".³

The myth is exposed

By the early years of the new millennium the myth of globalisation, as many had seen it, had been exposed. The process had worsened the effects of growth and development and, instead of the economic prosperity and social stability that it had promised, globalisation had delivered economic turmoil, political and social tension, and widespread devastation to the world's peoples and resources.

Swollen consumerism born out of the fruits of the industrialised age and the first wave of innovation from the post-industrial period (transport and communication) contributed to the demise of individual cultures,

1 John Campbell, Australian Local Government Association.

2 Rodrik D 'Has globalisation gone too far?' *Australian Financial Review* 17 January 1998.

3 Martin H *The Global trap*, Extract reprinted in the *Australian Financial Review* 21 March 1998.

sovereignty, and lapsed spirituality became increasingly apparent. The proliferation of global corporations flattened national borders and increased cultural homogeneity.

Consumers, non-government organisations (NGOs) and citizens utilised the internet to communicate the shortcomings of global corporations and their disapproval of the encroachment of globalisation into their lives. By 1999 the US, which was winning wars without ground troops or loss of (American) life, was being defeated in the world's first 'cyber war' as the traditional mechanism of national security was successfully invaded at all levels of sensitivity and decision-making by a growing number of hackers. Less democratic regimes tussled with growing anxiety over information proliferation and transparency, and with US cultural colonisation.

Institutional change

Crucial to the development of the global model had been the intervention of governments seeking to sustain their own power by first enhancing and then tapping the wealth generated by global economies. But this had proved exceptionally difficult to do in practice, and indeed those very governments, seeking to enforce their influence within their own nations, found it almost impossible to even maintain the influence that they had previously enjoyed. National institutions were increasingly replaced by transnational ones, and these had proved to be so powerful that they were even able to dilute the message of academic institutions and the media, which were the conventional 'critical watchdogs' of society. Transnational institutions brooked no criticism from those whose views may have challenged globalisation from social, economic, cultural or political perspectives.

Nationalism started to hit back even before the end of the 20th century. This was illustrated by the Japanese refused to remove barriers to its rice market. Free trade exponents presented a win-win outcome. It therefore seemed ludicrous for Japan to risk high value export markets for the sake of a food staple, at a time in which they had never been so needy. But to Japanese people, it was ludicrous to imagine otherwise.

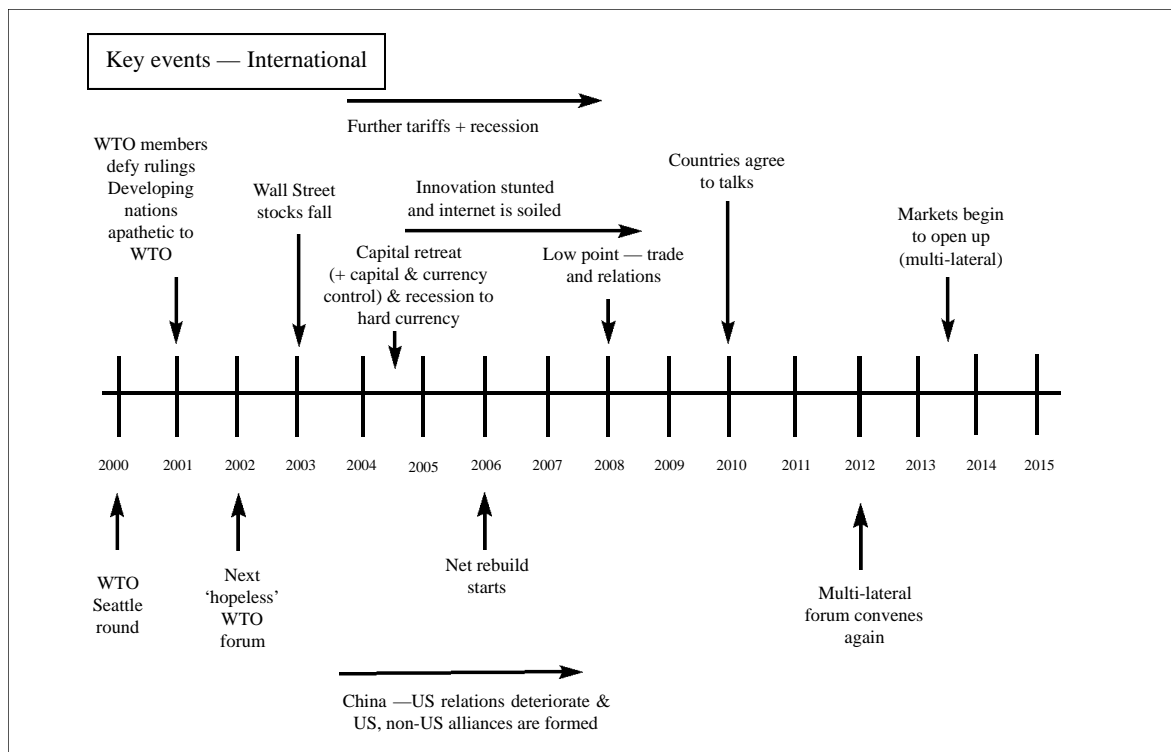
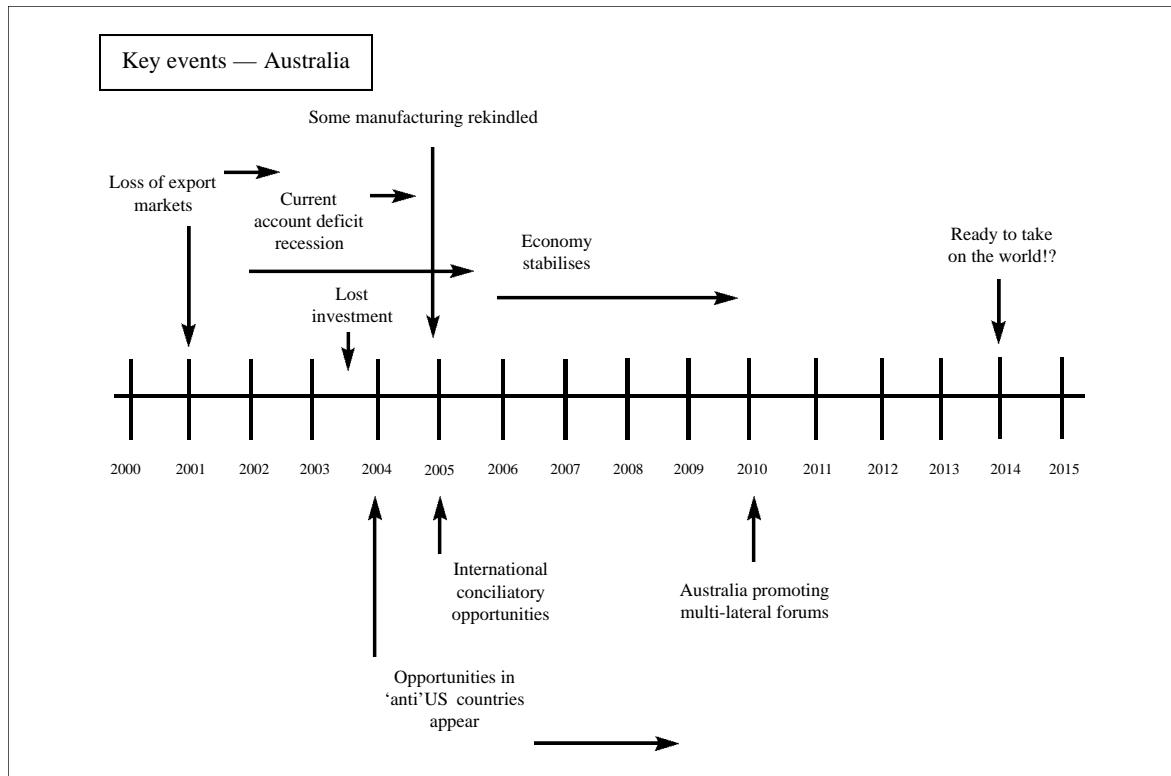
Nature of the response

Individually, none of these elements — spiritual void, diminished sovereignty, online backlash — could have caused globalisation to slow down. But as an amalgam of issues, they were sufficient to fuel the eventual reversion to a partitioned globe, with failed trade agreements, more protectionism and the increasing imposition of capital currency and labour controls. The retreat from globalisation was in full swing by 2004, with its real seeds sown during the Seattle Round in 1999 when the WTO negotiations stagnated.

After Seattle, the WTO lost substantial credibility and potency. WTO members feuded among themselves and erected trade barriers sporadically in response to domestic lobbying. Developing countries developed apathetic attitudes to the WTO, suspecting it to be a vehicle of exploitation. There was a concurrent deterioration in world politics; the US developed anti-global feelings and individual nations, notably China, escalated anti-US sentiments.

The erection of trade barriers spread and the loss of world markets started to undermine investor confidence. Stock markets tumbled, capital and labour

Sound the Retreat! — timelines



movements were curtailed and multilateral relations began to rapidly dissolve. For 10 years, multinational trade negotiations were non-existent. But in 2010, a universal ground swell of support for recast global policies revived a conciliatory approach and countries again looked to convene at the international level.

As all of this unfolded, clever international positioning and complementary domestic policies were crucial to Australia's development as it battled against a reversion to the narrowly cast economy of previous decades. Australia's international officials sifted knowledge opportunities from the rubble of globalisation's breakdown.

The Scenario 2 story

WTO details

By the time member states of the WTO met in Seattle in 1999, the cards were on the table. The agendas of domestic lobby groups in the US, Europe and Asia predominated any international agendas. Continued and rowdy opposition to free market economics, particularly opposition to unemployment, growing trade deficits and loss of sovereignty, manifested itself in abstention from WTO roles and the watering down of provisional agreements.

Nothing was resolved at the Seattle forum. Instead, time was spent workshopping failures and loopholes, and negotiating related concerns. US delegates forwarded a draft clause that the WTO provide for security exemptions.

This stagnation conveyed to WTO members and WTO 'wannabes' the clear message that support for free trade was waning and US leadership had fallen away. In the years that followed, the apathy further corroded open trade, initially in individual incidents and increasingly as universal decay.

US

George W Bush successfully campaigned on his compassionate conservative platform to win the US presidency in 2000 and the Republicans regained firm control of the Congress. The Bush administration pursued a policy of economic nationalism. The US Government became increasingly protectionist in response to democratic feedback and in retaliation to the closed market policies of other nations.

In the lead-up to the election, Bush had strongly promoted issues crucial to an electorate tired of Clinton leniency, particularly in the international arena, including a promise to resume defence spending.

Officially President Bush was pro-free trade, but in the Republican engine room sat a corps of nationalistic, anti-global advocates who believed free market policies were fundamentally opposed to the US national interest. These sentiments leaked into campaign rhetoric relating to aggressive market opening strategies for US farm products, the revision of export controls and a redefinition of the relationship between China and the US as one of competitors, not strategic partners. The surprisingly large proportion of the votes captured by the Reform Party under the leadership of Pat Buchanan in both the 2000 and 2004 congressional elections was also a modifying force to President Bush's position.

The *Wall Street Journal* noted the US swinging vote was anti-GATT and that, historically, the American right had always been protectionist.

A decade earlier, George Bush Snr had declared America to be the world's last superpower, and that the creation of a new world order was next on America's agenda. The Pentagon leaked a memorandum suggesting that the US would intervene to prevent any regional power from rising up to challenge America's global supremacy.

However, during the sympathetic Clinton era, Republicans saw the Pax Americana model flounder. An America which had worshiped at the altar of the global economy had become utterly materialistic and corrupt. The rest of the world asked: How can an America that is terrified that Russia or China may devalue its currency, be credible when it threatens to sanction either nation? How believable is a US/NATO threat to go to war with Russia when the US Treasury is warning that even a default by Moscow could crash the global economy?

Notably too, the Bush (Snr) administration had vetoed the 1994 Dunkel Draft of the GATT treaty that contained a Multilateral Trade Organisation.⁴

In the US the split between globalists and nationalists was clearly defined and openly argued:

The great foreign policy conflict of the post-Cold War era is between globalists and nationalists; the heirs of Wilson and the heirs of Washington. The former believe in interdependence, free trade, open borders, increased immigration, multiculturalism, and the strengthening of the UN, IMF, World Bank, the WTO, the EU, and all such institutions that take us closer to world governance and diminish the independence of nation states. Bill Clinton is in this tradition.

New American nationalists believe the global economy and international community are mythic, that is, they do not exist; and the largest entity to which one may give love and allegiance is the country, the nation state, the patria. Nationalists put America first, and the national economy before the global economy. They believe in the American System created by Hamilton and Henry Clay and perfected by the old Republicans.⁵

The hardened nationalist wing of the Republican party believed the WTO, a monument to the one world vision of Wilson and Franklin D Roosevelt, was run by nameless, faceless, foreign bureaucrats. They further believed that such organisations were siphoning off America's wealth to corrupt and incompetent regimes from China to Latin America.

National governments are responsible for the well being of their citizens a bond of loyalty not present in international bodies. There was no logic for the world's last superpower to accept, let alone champion, the creation of a body aimed at limiting its own freedom of action.

US withdrawal would be an unmistakable signal that America is back and that this nation is again the independent self-reliant republic the Founding Fathers intended it to be.⁶

The US Republican Congress waged a 'second war of independence' to recapture US sovereignty from faceless global bureaucrats who viewed the country as nothing but a vast, rich province to be plundered and looted on behalf of their new world order. It was seen as imperative that only Americans decide America's destiny.⁷ The push to globalise had strained global relations everywhere, but the free trade bridge strained under the weight of the EU-US tussle of the 1990s.

In 1997, European delegates questioned the *Helms-Burton Act* relating to Cuba. The US also noted that

4 *Wall Street Journal* 18 May 1998.

5 Buchanan P. Globalism vs Nationalism

sanctions on Cuba, Libya, Iraq and Iran were being ignored, not only by Russia and China, but by virtually all of the countries of Western Europe, which threatened to have the US sanctioned by the WTO.

The US saw this as a challenge to the wisdom of its sanctions policy and its sovereign right to impose them. The response from the political right was: our sovereignty is more important than our trade. America is about more than money, and her right to use her power to advance her foreign policy is non-negotiable.

Some in the US were of the opinion that the WTO was a European tool, not an unbiased officiator. The attitude of Europeans wanting power over US policy transferred to the WTO was understandable, since the EU had two dozen votes to America's one.⁸

There was American opposition to dealings in Asia too, not least the prolonged current account surplus with Japan and opposition to open trading relations with China.

Republicans asked: Is it free trade we have with China, when they steal our intellectual property, shake down our companies for technology, put a combined VAT tax-tariff of 40 per cent on US goods and run a \$50 billion trade surplus at our expense? In the trade wars China and other mercantilist regimes were waging against America, Republicans saw free trade as amounting to unilateral disarmament. A US paper commented that the best candidate for the takeover was the Republican Party — and the issue on which the leadership could best be challenged was Clinton's decision to extend trade privileges to Beijing.

In Australia, headlines such as 'Lamb Roast as Clinton Yields to Protectionist Push' reported the US tariff quota on imports on lamb from Australia and New Zealand in 1999; an example, closer to home, of US inconsistency preaching free trade but not practising it for fear of domestic ramifications.

Europe

The nationalist push in Europe rivalled that of the US. Jobs, particularly in politically delicate agricultural sectors, and the issue of how to reposition unskilled workers, formed the substructure of nationalist concerns.

At meetings throughout the 1990s, the US constantly complained to, and sought approval from, the WTO to impose sanctions on the EU in retaliation to special import concessions that the Europeans provided to their former colonies.

The micro-economic and political ramifications of WTO meddling were well documented throughout Europe:

6 Buchanan P. The American Cause

7 Buchanan P. The Rise of Sovereignty Fears 4 may 1994

8 Buchanan P. A European Assault on US Sovereignty March 1997

The Borders (Scotland) is bracing itself for the formal ratification of the sanctions. The farming crisis took more than 80 million out of the Scottish Borders economy last year and will cost more than 1000 jobs in the next four years. Local MPs are lobbying the European Commission to try to ensure that the area continues to qualify for European subsidies. A spokesman for the EU trade commissioner, Sir Leon Brittan, said 'we are basically in uncharted water.'⁹

Around the turn of the millennium, it was becoming increasingly difficult for conservative parties to accommodate resurgent nationalist sentiments.

In 1997, while Scotland and Wales were arguing whether to keep the British pound or yield sovereignty to the New Europe, Jacques Chirac called an early election in France, fearing anti-European sentiment was rising to the point where opposition to giving up the French franc could have dynamited the European Union.

His opposite number in that election, Jean-Marie Le Pen, articulated the feeling, saying:

What is being hidden from you is that France is threatened with extinction, not in 10 years but before the turn of the century, in less than four years. What Chirac is asking today is to be an accomplice to this national suicide.¹⁰

The innately unpopular euro currency, developed for the global economy as a counterbalance to the greenback, symbolised the tensions erupting in Europe.

The euro never hardened as a competitor to the US dollar. Countries atop the economic hierarchy in Europe were not happy to aggregate their national wealth with the poorer nations. The euro's weakness was indicative of the backlash to free trade economics and the unification that global compliance necessitated.

Asia

The Asian crisis set in motion a growing opposition to globalisation and increasing concern about WTO membership and compliance leading up to the 1999 Seattle round of talks.

The International Conference on Alternatives to Globalisation held in the Philippines in 1998 tackled problems arising from the irrational pursuit of profit by rampaging capitalism and produced a comprehensive list of impacts from the implementation of neo-liberal globalisation prescriptions:

- a widening gap between rich and poor people and rich and poor countries;
- dissipation of working class gains — widespread unemployment, job insecurity, loss of benefits, destruction of trade unions and commodification of migrant workers;
- the reversal of limited gains in agrarian reform, resulting in landlessness and rural unemployment;
- global environmental abuse; and
- erosion of the gains of social movements and regression of democracy.

The conference concluded that as the liberalisation and deregulation drive was being pushed to the maximum via the Multilateral Agreement on Investment (MAI) and the WTO, the situation would only deteriorate.

9 Ramsey S Scottish Agricultural College Report 26 January 1999.

10 Buchanan P. The Sovereignty Issue Roils the Right 7 May 1997.

In an article entitled 'An export that developing countries don't need', Jacobo Rodriguez explained:

The push for minimum labour standards across nations is part of a larger effort to establish a set of so-called international fair trade rules intended to level the playing field. Those rules, union leaders and other interest groups in industrial countries claim, would make workers in rich countries less vulnerable to competition from cheap labour in developing countries. This is merely a new brand of protectionism. For workers in these (developing) countries, a job that might be unacceptable to Westerners is much better than no job at all.¹¹

Coupled with apathy about WTO membership was a growing suspicion in Asia that Western countries consciously manipulated their economies:

The Asian Crisis is now believed by power brokers in Asia to have been engineered by the US. Here's the new explanation as it is developing in seminar rooms from Seoul to KL to Beijing.

The high growth economies of East Asia were becoming the main challengers to American power in the region, and it was time they were brought to heel.

The campaign worked in two phases. First, a major ideological barrage was launched to soften up the Asians. Then came phase two. Once the Asian economies had begun to deregulate and were standing in the world market place more or less naked, the hedge funds were let loose on them.¹²

Cultural pride in Asian countries, notably Japan and Korea, filtered into policies on agricultural imports. Japanese rice imports peaked in 1995, caused by drought in that year, after which imports fell to nominal levels. Foreign efforts to capitalise on other high value markets, such as beef and seafood, were thwarted by ambiguous internal rules and unspoken parameters of honour — the price mechanism came second. Japanese money invested through Asia to assist recovery secured political support for this stance.

At the turn of the millennium, billboards around Malaysia touted slogans such as 'Foreign interference is a threat to national stability' and 'Foreign interference can undermine a nation's sovereignty'.

In addition to a rejection of US-centric approaches by governments and members of international bodies, leaders such as Malaysia's Dr Mahathir viewed US cultural colonisation as an evil in its own right. US free trade advocates and corporations would have been better positioned to champion global trade through the emerging media and internet facilities had they opted for a less US-conspicuous interface.

US corporate attempts to address issues such as access for underprivileged nations and responsibilities to preserve cultural differences in the connected system were viewed as merely cosmetic.

¹¹ Rodriguez J 'An export that developing countries don't need' *The Washington Times*.

¹² *The Sydney Morning Herald* 5 July 1999.

Global highwire

At the end of the 20th century, many commentators were expressing mounting concern about the incalculable risks associated with the instabilities inherent in the system of global capitalism (as illustrated in John Gray's book *False Dawn*). Further, they were noting the inherent instability of a single superpower in this system and that the US had a distinct lack of experience managing multi-polar as opposed to bipolar (Cold War) relations.

The US experience of a borderless globe had been a projection on to the world of America's own self-image. All of the features of globalisation — disintermediation, individual capitalism, consumer power — were but extensions of the American dream, where everybody is a 'wannabe' and where the US is the world, but the world is not the US.¹³

China and the US

China-US relations provided the single biggest symbol of the globalisation dilemma. The win-win economics of an open China were pitted against basic ideological and political differences and the magnitude of change required by China to comply with the requirements of the WTO.

Social and political ideology

The fundamental difference between the US and China is predicated on the value of the individual versus the value of the collective.

Westerners see through lenses distorted by ideas about communism, Christianity, and even by our deep convictions about democracy, human rights, and the value of the individual. We hold these truths to be self-evident and universal. China has a completely different discussion going on. Chinese life is about the Collective. The engine of the Chinese economy has been the family farm, the family business and the village enterprise.

This difference shades every interaction the West has with China. Western diplomats and politicians warning Beijing party leaders about human rights violations feel they may as well be speaking in Turkish — and they are right.¹⁴

In July 1999, the human rights issue flared again when police in China arrested tens of thousands of Falun Gong members and outlawed the sect. Sects of this nature were infiltrating the population, filling the void left by the abandonment of socialism. However, even more disturbing to the authorities were capitalist 'fillers' (highheels and hot rods) and the Western culture and values being propagated by global information and communication technologies.

In the 1990s, US policy on China openly linked support for commercial progress to social developments, such as Western human rights values. China was prepared to tolerate such rhetoric in the name of development and better living standards for its people, but mere tolerance was seen as a shortcoming by the US.

The issue of Taiwan was a powerful illustration of the fundamental difference between the two countries. The US supported the gallant fight of the Kuomintang and its predecessors for the virtuous democratic cause against the huge and oppressive communist regime. To Beijing, the US was the bully, picking on China and interfering with its internal affairs.

¹³ Oliver Freeman, ABF Focus Meeting.

¹⁴ Paul Twomey, ABF Focus Meeting.

In hindsight, the flawed ideological fundamentals in the US-China relationship and repercussions for the global model were blatantly obvious. A US commentator might have asked: Will China embrace capitalism and avoid causing a new cold, (or hot) war? Meanwhile, their counterpart in China may have questioned: Will the US get off their ego trip and encompass an attitude of give and take?

Economics and trade barriers

Trade barriers in China had long been a bone of contention between the two countries. Border controls, such as tariffs and customs clearance practices, increased with the breakdown of relations. Internal inconsistencies and complexities, especially relating to intellectual property (IP) and the legal system, continued as an irritant to American corporations and government.

Even before the system broke down, IP insurrection was rife, and was one of the most corrosive elements in the US/China relationship. The commercial press in China recounted the extent and extremity of the problem.

China Commercial News commented that pirating of foreign products such as movies or software ran rampant and had become a serious bone of contention with foreign nations. In 1996, 320 types of computer games circulated in China. Of these, only half were original programs and counterfeit sales were typically double that of originals.

In 1997, China Online noted the counterintuitive fact that software sales were falling as a proportion of total computer related sales. In 1997, computer related sales grew 41 per cent to US\$15.72 billion, but software sales dropped to US\$1.35 billion, showing a 13.6 per cent decline. In 1997, hardware increased as a proportion of Chinas computer market from 77.7 per cent to 80 per cent, while software dropped from 10 per cent to 8.6 per cent.

The experience of Microsoft was perhaps most illustrative of the tensions involved. In 1999, Microsoft invested over US\$100 million in anti-piracy efforts. In that year, Microsoft sued the Yada Group for copyright infringement.

The Yada chairman used an old Chinese saying to characterise the lawsuit — the yellow weasel always attacks the sick duck — and saw the Microsoft attempt to incriminate Yada as a kind of signal. The Yada side noted that the American Government was obviously in support of the suit, as the plaintiff was listed as Microsoft Corporation (US) rather than Microsoft (China) Limited and appended to the pleading were the signatures of US Secretary of State, Madeleine Albright and Washington Secretary of State, Ralph Munro.¹⁵

Conditions for information technology

IT companies in China were becoming increasingly difficult. As early as 1996, original products and counterfeits were entering the market simultaneously. Ironically, the proliferation and relative inexpensiveness of related technologies, CD burners for example, aided the development of the pirate industry. By 1998,

¹⁵ *China Information News* 27 May 1999.

60 per cent of companies considered piracy the main threat to software sales.¹⁶

The breakdown in relations meant that the US was becoming less tolerant of China's black market, but had less effective tools at its disposal to implement compliance with IP standards. This frustration worsened relations between the governments.

Prior to the China-US breakdown in relations, the US was the largest foreign investor in China. In 1997, the US had funded 25,000 projects at over US\$40 billion.¹⁷ Companies such as Microsoft could afford the necessary outlay to intimidate black market profiteers and in so doing took on quasi-regulatory roles themselves.

Without the US government umbrella, smaller companies gave up on in-market positioning and developing products specifically for the Chinese market. They saw it as a question of profit versus sales and, with less research and development (R&D) dollars, turned to tailoring products for secure markets. The push to supply the mega-market was over, for now.

Around this time, Bill Gates made the ambiguous comment, 'If they're going to pirate, let them [China] pirate Microsoft.'

The IT quandary

During the Clinton administration, most favoured nation (MFN) status was granted to China as a lure to WTO membership. In its justification, US ambassadors confirmed China's most immediate fear that the export of communications promoted the spread of American values.¹⁸ Foreign technology aided the dissemination of information and provided a tool for insurrection.

When China-US relations collapsed, the US repealed China's MFN status and re-implemented export controls for certain technologies. As a response to security paranoia, the internet became increasingly encrypted.

The Chinese Government built the *wangguan* (net wall) higher. They promoted the installation of Chinese operating systems and the development of their own ether networks, as insinuated at the 1998 WorldView Meeting:

As China grew, its electronics sector began to evolve ... Even with co-operation of Microsoft and Intel, a new protocol emerged from China.¹⁹

The knowledge transferred to Chinese industry in the early years of computer and internet development allowed the Chinese to develop their own capabilities. Later, they teamed up with their neighbours, the 'creative' in India and the 'brainy' in Russia, and proved to be a formidable enigmatic developer.

As early as 1999, China was developing information warfare capabilities. The White House ordered the US military to develop similar capabilities, noting they may be losing the world's first ever *cyber war*.

¹⁶ *People's Post and Telecommunications* 17 December 1998.

¹⁷ *Economic Information Daily* 24 June 1998.

¹⁸ Commerce Secretary Daley, 3 June 1999.

¹⁹ 1998 Worldview Meeting — *Navigating a Diverse Region: Scenarios for Asia* 24-26 August, Sydney, GBN St Leonards NSW 1998.

International relations

In 1999, Charles Jamieson of Austrade warned Australia's strategic thinkers away from the notion of ongoing regional stability.²⁰

The breakdown in trade decayed international relations. Governments worldwide felt pressured by unpredictability in the international arena, economic downturn and domestic upheaval. They looked to deflect attention offshore and anxiety often manifested itself as hostile rhetoric, further polarising the global alliances blueprinted at the turn of the millennium.

During the Clinton administration, US military presence in Asia was indirectly challenged by the development and proliferation of arms in the region. In 1998, India exploded five nuclear devices and Pakistan responded with half a dozen tests of its own. A year earlier, a North Korean Taepodong medium range missile flew over Japan and the Japanese alleged North Korea had nuclear capability.

The People's Liberation Army was the leading supplier of conventional, nuclear and ballistic technology to the developing world. In July 1999, China revealed it had developed a neutron bomb. The US, resentful of Chinese arms dealing and the related technology transfer, responded with claims that China had stolen the technology from them.

Chinese military planners were realising that they may not actually need to attack the US Seventh Fleet; instead, they could attack the communications nodes, the fibre optic cables and spy satellites.

Blue corner — Team US

Over the period 1999 to 2002, a fortified Republican Congress vigorously pursued the policies of George W Bush, outlined in his presidential campaign as following.

- *Defence*
 - support for the rebuilding of America's military strength to keep the peace; and
 - preparedness to cancel Anti-Ballistic Missile treaty with Russia if the US was unable to convince Russia to amend the treaty to allow the deployment of missile defence.
- *Foreign Policy*
 - redefine the relationship between China and US as one of competitors, not strategic partners;
 - refocus America's policy in Asia on friends and allies; and
 - support the Taiwan Relations Act.

²⁰ Interview for ABF Project July 1999

The US redefined its relationship with China and words were matched by actions. America shored up postwar alliances in Asia, increasingly by its presence rather than treaty agreements. In so doing, America guaranteed security for its allies, but inflamed tensions with China.

Of China's immediate neighbours in the Pacific, the US has direct military alliances with Japan and South Korea, a half-century-old 'godfatherly' relationship with Taiwan, and a ticklish but still close relationship with the Philippines. China has disputes or potential disputes with three of these neighbours and a claim of total sovereignty over the fourth.

The US quietly retained troop levels in Korea, Japan and the Philippines; likewise US naval strength in Asian waters subtly increased. High-tech weapons of intimidation were important. In 1999, Asian alliances were being fortified by high-tech military agreements. New security guidelines were approved by Japan's Diet, coinciding with growing American congressional support (in the wake of the Cox report on alleged Chinese spying) and Taiwan was embraced by the new theatre defence system of anti-missile missiles.²¹

By late 1999, the writing was on the wall. China-US relations ebbed to their lowest point in years when Taiwan requested state-to-state negotiations with China. China's hostility towards the province flared up. It accused the US House of Representatives of supporting Taiwan and repeated its threat to use force which was something that even pacifist Bill Clinton said would be viewed with the gravest concern.²² Other US spokespeople around that time said categorically that the US would go to war to defend Taiwan.

Red Corner — China, Russia and India

From 1999, the China-India-Russia Access Alliance took shape. The three global giants came to the table in response to the irresponsible NATO bombing of the Chinese embassy in Belgrade. There also was an undercurrent of realisation that there was no other superpower to counterbalance the US.

After making unprecedented market opening commitments in Washington in April 1999 — agreeing to allow foreign ownership of telecommunications and more foreign involvement in the banking sector — Chinese Premier Zhu Rongji broke off talks with the US in the wake of NATO's bombing of the Chinese embassy in Belgrade on 7 May 1999.²³ Around that time, Beijing hardliners were starting to describe developments in the US-Japan led alliance, which they opposed bitterly, as an East Asian NATO. The bombing of the Chinese embassy in Belgrade then led to an emotive campaign against the US-led NATO hegemonists.

Other critics of NATO supported China's concern of an Asian based command, embracing Japan, South Korea, Singapore, Taiwan and the Philippines (the latter especially since US naval visits had been restored following the ban of US port calls to Hong Kong by Beijing).

The party newspaper of China, *People's Daily*, warned darkly that NATO was harbouring intentions more vicious than a bomb attack and the People's Liberation Army leaders told foreign diplomats in Beijing that they would thwart the conspiracies of an East Asian NATO.

National defence was being promoted in leaders' speeches as a priority on the same level as economic development for the first time (except for a brief period after the Tiananmen massacre of 1989) since Deng Xiaoping began opening the national economy 20 years before.²⁴

Russia was quick to come to the table, fearing that, without open communication lines, the Tibet-China

²¹ *Australian Financial Review* 1 June 1999.

²² *The Sydney Morning Herald* 23 July 1999.

²³ Reuters 9 July 1999.

²⁴ *Australian Financial Review* 1 June 1999

situation could become the next Kosovo. Relations between China and India had never been better, despite some strain in 1998 when India rationalised its nuclear tests as a response to Chinese military development.

Indicative of warmer China-India relations, China soon after refused to take the side of their traditional ally Pakistan over Kashmir. The Pakistani Prime Minister journeyed to Beijing to seek the moral support of his counterpart on the Kashmir situation. India perceived Kashmir as a bilateral issue; Pakistan had been hoping to escalate it and lift negotiations to an international forum.

China did not want to antagonise India for two reasons; because of China's huge Muslim population to the west and because the Dalai Lama resided in India. Relations with India were perceived to be crucial should US confrontation over Tibet have escalated. Furthermore, China was anxious to accommodate its neighbours, in an attempt to secure access to resources.

Stronger political ties and diminished trading opportunities elsewhere improved India-China bilateral trade across their shared 1500km border. By 2000, software exports from India to China were increasing tenfold per annum and the logic of comparative advantage cut a path along which hardware and manufactured goods moved in the other direction.

Collaborative projects were developed with China and India sharing satellite access and collaborating on launch projects. Indian satellite launches were the cheapest in the world through the period to 2015.

Closed trade — some effects

The success of IT companies that drove the US economy in the context of the Long Boom was predicated on access to a global market. Investment in related infrastructure companies had been driven by the expectation of impending exponential growth — marginal up-take of IT was inconceivable. The impending reversion to protectionism in the early 2000s jeopardised this market and shook the confidence of investors worldwide.

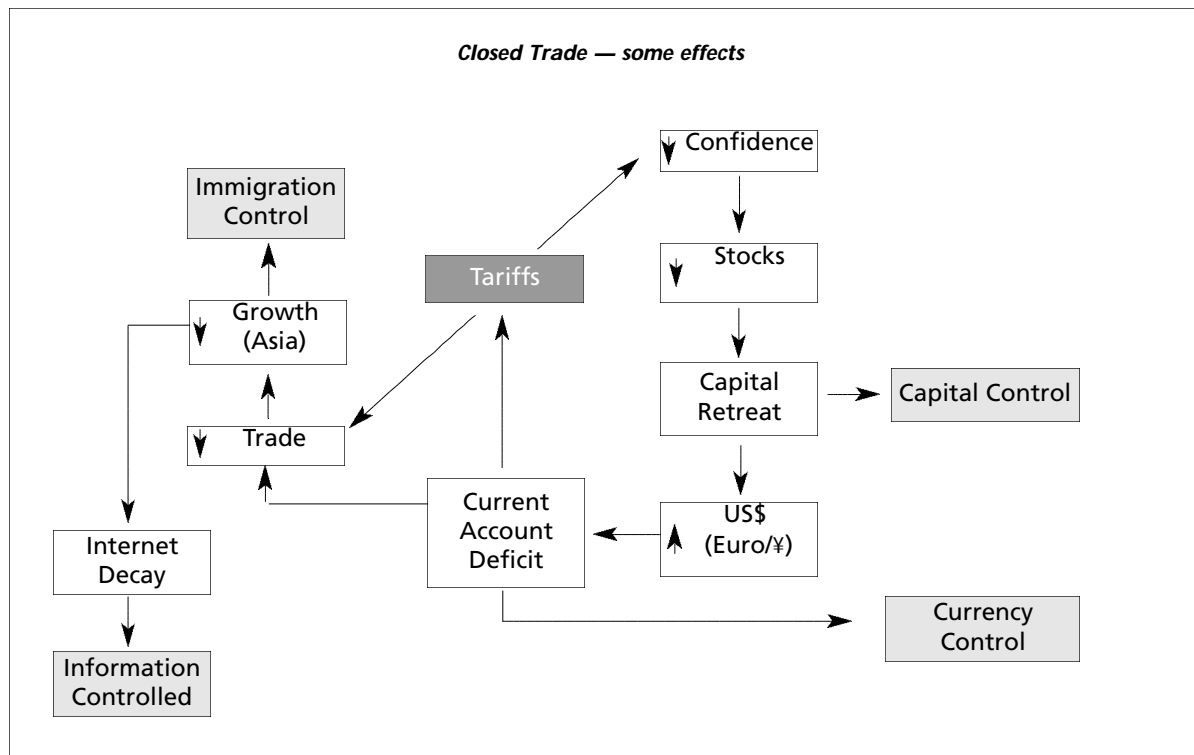
Since the climactic rise in Wall Street stock prices had begun in 1996, speculators questioned the validity of share prices relative to company worth, in effect asking: bubble or boom? Stephen King, Director of Economics at the London office of the Harvard School of Business and Commerce, developed a checklist of bubble criteria from a study of historical global crashes. From this he concluded 'bubble' and went on to draw parallels between the internet crazed Wall Street of the late 1990s and the broadcast frenzied Wall Street of the 1920s.²⁵

King noted that bubbles burst when liquidity support fades. This occurred in the wake of increased protectionist measures and the Dow Jones fell.

The fall in equity prices set off a series of actions and reactions, feeding off each other and tightening into a global protectionist spiral. Some effects of the spiral are seen in the system map below (see *figure 1* p 58).

²⁵ *The Bulletin* 20 July 1999

Figure 1



As had been promised by Alan Greenspan in 1999, a pre-emptive Federal Reserve used monetary controls to soften the landing of the sharemarket tumble, effectively drawing out the ordeal and causing bear markets to occur worldwide. For years protectionist policies in trade capital, currency and people were pursued and the situation worsened. The year 2008 marked a low point in global trade; multilateral trade had been replaced with bilateralism, amidst a broadly tripartite Europe-US-Asia landscape.

IMF medicine prescribed after the first signs of the Asian crisis in the latter part of the 1990s was bitter and the full dosage unpalatable. Japan, Korea and South East Asian countries did not recover adequately before trade was curtailed in the early 2000s. The loss of export markets and foreign investment wound back the revival process and Asia stagnated until 2008.

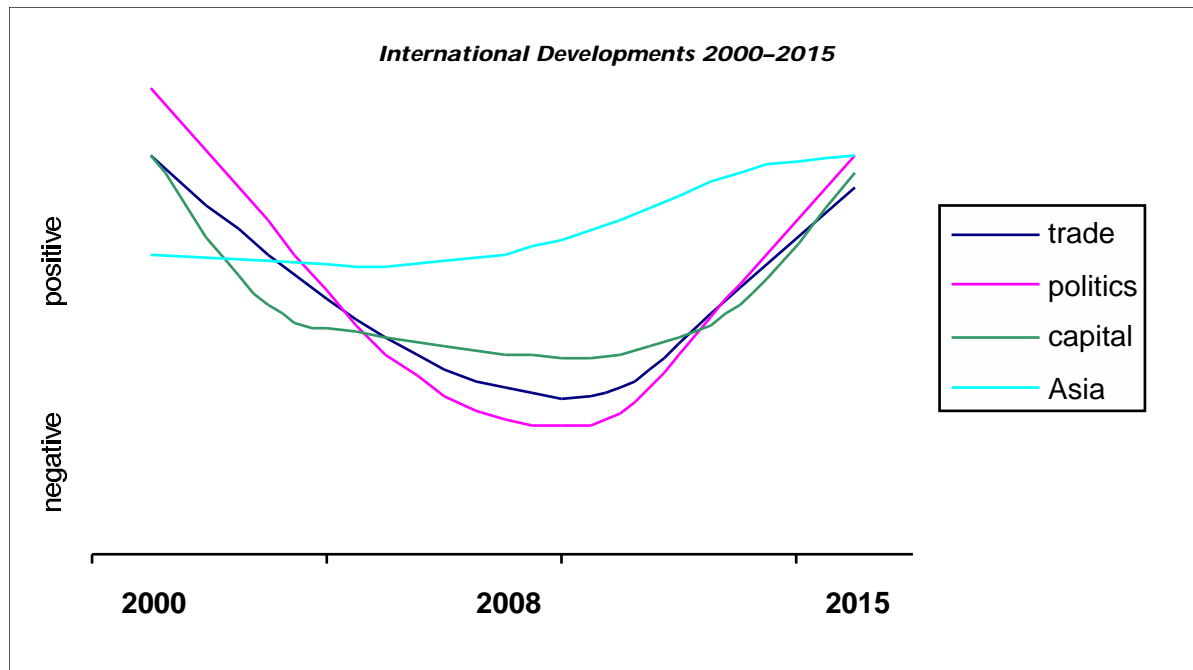
For many US companies, the US was now the world. In 1999, nearly 70 per cent of internet users were located in the US. But aggregate consumption was curbed by the recession which cascaded from Wall Street collapse to bankruptcies to unemployment and curtailed spending.

Bankruptcies and restricted cost structures in survivor companies soiled the internet — webware was not perfected, anti-viral developments slowed, websites were not maintained, links decayed and deadends became more prevalent. When the supply side structure of web companies and facilitators reconfigured, they set about reconditioning the web. The web became specialised, partitioned and encrypted. In effect, closed trade had also constricted the flow of information around the globe.

Changing parameters

The diminishing of global trade, as a product of market closure, had an interactive relationship with intra-country politics. The relationship is depicted by the international developments diagram over the page (Figure 2 p 59).

Figure 2



As a result of increased protectionist sentiment worldwide, world trade fell in the period to 2010. This worsened nation to nation relations and, in response, governments inadvertently exacerbated the problem by manipulating capital and labour flows. In turn, worsening relations contracted trade flows even further. Consistent with this cycle, when intra-national relations were rebuilt around 2010, this was followed by improved trade agreements and increased trade flows.

In *Figure 2*, the flow of trade behaves more conservatively than politics because it represents aggregate trade; individual countries and companies are able to find alternate suppliers and export markets through bilateral negotiations.

A retraction of investment in the early 2000s is depicted by a sharp negative dip in the diagram, but capital actually behaved conservatively in the following years. Capital movements were of course restricted by some governments. There were also the counterintuitive strategic moves by some organisations to invest abroad in order to dodge tariff barriers and access consumers in distant markets. When negotiations and trade relations were restored, capital moved in tandem with talks and trade. In some instances investment lagged slightly, allowing trade to test the waters.

Growth slumped worldwide during this time. Asian economies, wounded by the currency crisis of the 1990s, were impaired in their efforts to recover by deteriorated global relations and contracted international trade. Japan never revived as the consumer market it was in the late 20th century. Conservatism perpetuated the Japanese people's high propensity to save and curbed spending. Further, the decline in the birth rate and a strict immigration policy capped the population.

Implications for business

Position and cultural understanding became more important in the bilateral situation that developed out of the multilateral collapse. In this endeavour, Australia was assisted by its multicultural status and proximity to Asia. Online connections were the important tools of communication and a chief source of information.

In the import (and domestic import competitor) arena, traditional retail, wholesale and import operations, which had been challenged by online players in the global world, recovered lost ground in the marketplace. For business to consumer transactions, the internet invasion had slowed, so business was driving the market at a reserved pace. On the other side of the counter, the cluttered internet, combined with inconsistencies in import protocols and prices for consumer goods (such as books and music), diminished consumer confidence.

Market position provided significant advantages to companies, such as proximity to customers, market information and awareness of changing protocols and corporate movements. In the business to business export world, bilateral government negotiations were crucial. Exporters who had invested in positioning themselves strategically in relation to their markets were also well equipped to influence strategic partners, lobby groups and, effectively, the government on issues relating to market access. The advantage of this access was offset by the downside of increased exposure in markets going into recession. Comparable government structures, such as trade commissions, took on a revitalised role.

The upside of trade disruption was the opportunities presented for the nimble. Governments' ability to negotiate market access provided companies with sales, often at a premium. For many, such opportunities could lead to extended contracts, given the right balance of ability, commitment and government support.

Over the period 2000-2010, there were opportunities both for large multinationals and small niche operators, provided they had the vision and the resources to take advantage of them. Niche players endured because they were flexible and had low overheads and because they were accustomed to outsourcing peripheral tasks. Conversely, trade giants such as the sogo shosha and chaebol were well equipped to respond to the complex, changing and often unpredictable environment due to their experience, knowledge, in-market presence and resources (notably personnel). They knew their territory and formulated strategies to secure markets. The survivors developed stronger corporate reputations.

Transnational companies operated above and below the tremors of politics. They retained their power and position during the demise, then emerged even stronger in the new multilateral world in 2008 and after.

Capital repatriation back to source nations provided an opportunity reminiscent of the bargains on offer throughout Asia after the currency crisis of 1997-98. Strategic operators who could access the funds took advantage of the repatriated capital to supply lost goods and services. Further, the strategic money was invested in activities to dodge tariff barriers and access wealthy markets. In early 2008 the new president of a global fashion corporation had reported that:

Investment risk was minimised by strong strategies developed on the basis of a clear understanding of the supply through to the customer. It was also minimised by an understanding of the related contingencies, such as the backlash to open markets that often coincides with most trade disruption.

Until 2008, investment was made in the broad context of recessed domestic markets and limited secure export markets generated by unpredictable bilateral trade negotiations.

The recovery

By the year 2006, signs of profound and pervasive shifts in attitudes to globalisation could be detected in countries across the face of the earth. Passionate advocates of multilateral trade positioned themselves

politically and publicly preached the doctrine of mutual wealth creation through open economics. In the US, the Democrats incorporated a multilateral policy in their platform and campaigned successfully to win the 2008 election.

A progressive and conciliatory structure for the development of free trade was built from new understandings of the multilateral world order and respect for national sovereignty. A new appreciation was also apparent of the need for basic technologies to be accessible to far more people than had hitherto been the case.

There were parties who feared the potential for development enabled by new technology could challenge the global hierarchy chartered in the Industrial Revolution. Such anxiety was acute in powerful circles of the older generation who were not personally familiar with technology.

In contrast, there was a basic concern that the world was growing larger and less equal. In the years to 2008, the world's population was growing by the size of the US every three years and 98 per cent of this growth was in the so-called developing countries. And while modern technologies had the capacity to bring development to countries, at the beginning of the new millennium a widening of the wealth gap between connected and unconnected peoples. Further dispersion was supported by the proposition²⁶ that for culture is crucial for wealth creation — and a culture of technology was inherently and intrinsically lacking in developing countries.

After the collapse on Wall Street, some felt the world had simply not been ready for globalisation, and that the 'global' in globalisation had not been considered as a vital element of success. More extensive preparation, it was argued, was needed.

Young Australians took a lead role at the World Youth Parliament, which formed at the end of the 20th century. This Parliament helped equip developing nations with basic technologies over the next decade. Efforts at establishing personal networks in early years led to commercial contracts for some Australian companies as these markets evolved.

The demand for free trade policies worked upwards, from individuals and businesses to governments. The teeth in the cogs of this mechanism were well described by Jacobo Rodriguez:

It is individuals, not nations, that trade with one another. And the reason they exchange goods and services is that they expect to benefit from the exchange, which necessarily implies that they value the goods and services they receive more than those they give up.

The democratic swell of opinion in favour of free trade negotiations put multilateral trade on the agenda for global meetings in 2007, when governments were pushed together by the need for ratification of the 1997 Kyoto agreement on carbon emissions. However, in 2008 it seemed that there was almost universal support for following the path which gave globalisation and open markets the best chance to succeed. Nations knuckled down to the task of repairing damaged relations by 2010. One year later, governments convened to agree upon a sustainable plan for the development of open trade. The project set out to

²⁶ Landes D *The Wealth and Poverty of Nations: Why some are rich and some so poor* WW Norton, Boston, 1998.

uphold and safeguard peoples' interest, rights, welfare and values, to ensure democratic governance and the right for people to determine their national destiny, which had been the aspects of concern at the conference on alternatives to globalisation back in 1998.

In the years to 2015, multilateral agreements were negotiated but, as before, the process was slow. The reworked system sustained equality between and within countries.

In this brave new world, regional groupings retained much of their importance. In the commercial realm, power shifted away from governments, which acted as regulators, to the corporate sector — although within Australia, government organisations still played a significant role as facilitator, negotiator and amalgamator of business.

The multinational corporations that survived were more powerful than at any previous time in history.

Effects on Australian business

In the years of free trade decay and retreat from a global system, Australia suffered from lost export markets, diminishing access to imports (in part due to domestic politics) and a retraction of foreign capital.

Agriculture

Even during the relatively open times of the 1990s, agricultural trade had been frustrated by the political strength of domestic lobby groups in Europe, Asia and the US. Countless jobs had been lost, especially in rural areas, and political lives had been sacrificed in the push to globalise. Access to agricultural markets had been a significant bone of contention between countries and trading blocs, and indeed proved to be a key catalyst for the global breakdown.

The demise of the WTO spelt victory for farm groups worldwide, which celebrated with the immediate imposition of high tariffs.

In Australia, however, farmers and rural investors had hung on through often desperate times in the 1980s and 1990s in the hope that export market opportunities would be realised through the WTO. In the period to 2004, markets for many products were lost, sending rural communities into panic and then depression. In the early years, major local and foreign investors exacerbated the pain of rural Australia by selling up and walking away.

The agricultural industry wilted but did not die — in fact, change necessitated by the crisis led to new shoots that blossomed into fruitful branches. Farmers banded together and worked with other links along the export chain to develop higher value added products for strategically targeted markets.

The agricultural sector picked up on precedents set in southern Brazil, with entire areas in Australia becoming officially declared organic and GMO (genetically modified organisms) free zones. Through this policy, farmers secured long term contracts for clean products in wealthy markets in both neo-traditional markets in Asia and among the cultural cliques in Europe. Strategic genetic inputs added intrinsic value to these products. Other areas concentrated on developing GM products for genetic exports and produce to markets in which genetically modified foods were being accepted and achieving premium prices.

Resources

Before the retreat to protectionism, resource prices had climbed on the back of revived Asian demand,

buoyant global equity markets and the policies of a growth oriented US Federal Reserve.²⁷

In the early years of the 21st century, the resources sector was damaged less by trade distortion and more by the onset of global recession. In most countries, primary resources such as coal and iron ore were essential inputs to production, and resources such as gas and petroleum were necessary for domestic consumption. Cleaner fossil fuels continued to be the primary source of power up to 2015 and were widely regarded as being likely to retain that position for the foreseeable future. The recession reduced both production and consumption, while the inherent supply constraint for many resources led governments to act with caution. Administrations analysed their options and took into account future supply considerations before imposing rash or excessive restrictions on resource movements.

Europe was the trading bloc least affected by the China-US fallout and global trade collapse. Europe, as a net importer of resources, helped keep world resource prices buoyant.

Gold was to have been used for many new communications connections. These plans were impeded and gold prices fell.

Generally speaking, primary production resources were affected less by trade partitioning than manufactured products. In Australia, the resources sector was fortified by investment abandoning the rural sector.

IT

In Australia, success most often came from joint venture and collaboration with major international software, systems and hardware companies. With market closures, IT companies suffered from lost business, reduced access to international collaborations, loss of consumer markets, and a severe retraction of capital due to loss of investor confidence. The withdrawal of funds was felt acutely in R&D departments and in small businesses looking for capital for their next new product or to fund growth. IT companies reassessed the potential of products that facilitated global business and the potential of retail products for the global market. Markets became specialised, shifting IT focus to market consolidation and tailoring. It was commonly felt value would be found in tailoring existing products to individual markets.

Because the US was such a good market for its own internet information, media and entertainment products, and because online business to US consumer relationships were already in place and beginning to succeed, the US continued to hold a strong but not monopolistic position in online competence. When the global market began to revive in 2008, they were ready and waiting to take their now very sophisticated online services to the world. The difference was that in 2008 they were faced with many different and incompatible platforms and systems.

Y2K hit hard in China, as had been predicted,²⁸ because operations using pirated software (estimated at 90 per cent nationwide in 1999) were not supported by IT companies. The millennium bug altered the nature of the computer industry in

²⁷ *Australian Financial Review* 5 July 1999.

²⁸ *China Online* 9 March 1999.

China. With the support of government, many organisations opted to rebuild their systems using software and programs developed outside of the US, increasingly in China.

US Commerce Secretary Daley noted in 1999 that the US no longer had a monopoly on state of the art technologies and that US producers would face heated competition for sales in China from producers in several other countries.

Microsoft products were exorbitantly priced and widely denounced as a hegemony of knowledge. In 1999, the Golden Great Wall company caused a furore in the computer industry by offering for sale its Hurricane 499 model which did not pre-install Microsoft Windows. When it was clear there were not any legal problems, other companies followed this lead.²⁹

Taiwan enjoyed relatively free access to US technology over the period and contracted to US companies to develop Asia tailored IT products for US companies. India also developed its IT industry and skills base, and became the predominant supplier to China.

Australia was developing strength in the areas of software-hardware integration and IT services linked to accounting, financial and legal professional services, as well as mining, and was able to capitalise on opportunities in China.

As the global computer industry fragmented, Australia took advantage of bilaterally negotiated opportunities throughout Asia to develop and supply niche items: telecommunications equipment and applications software, sold as components and coupled to service sales.

Retrospectively, observers noted that from the beginning of the retreat from globalisation and open markets, the pace of IT development slowed. Australia nevertheless did manage to develop niche technology applications and China, India and Taiwan grew to be major suppliers of hardware, software and systems. But the US, influenced by the US military, never relinquished its position as chief global IT innovator. Because of its industrial base — aerospace, weapon systems, automotive — and because of its sizeable and sophisticated consumer market, the US continued to embed highly innovative IT capacity into manufactured products and into service functions such as intelligent road networks. The US also successfully protected vital knowledge components and in 2010 was well positioned to refabricate the global blueprint of 2000.

Services

The recession of the early 2000s resulted in reduced tourist trade. Australia remained the sole destination for a limited number of Chinese tourists.

The international trade in services was not severely altered by the open market purge. Leading up to 2000, many countries had kept service trade barriers high so they had a stronger negotiating position at the 2000 round of multilateral service negotiations.³⁰

In the 1990s, global trade in services had been growing faster than growth in merchandise trading. In 1996 for instance, global services trade was US\$1.3 trillion, as opposed to US\$5.3 trillion for merchandise. The fastest growing area of global services trade was the supply of professional and business services, including finance and telecommunications, which accounted for almost half of the global trade in services.

Australia's professional exports, particularly engineering and legal services, had more than doubled in the

²⁹ *China Business Times* 30 June 1999.

³⁰ Department of Foreign Affairs and Trade, Australia.

five years to 1996. Professional service exports were closely aligned to their client base; for example, as Australian banks and insurance companies became more established in foreign markets, they required more accountants and lawyers to provide advice, prepare financial and draw up contracts. The Australian Government realised the potential for service exports, even in a bilateral world, and so developed a facilitative rather than regulatory framework.

Australia focused on delivering services to Asia, and individual companies had success in the following arenas: the provision of engineering, architecture, accountancy and legal services to South East Asia, China and India. Tourism and education were also strong products. China in particular was keen to have Australian advice on socio-political areas, given our Western, but not US, worldview and ethos.

Australia shipped its creative ideas and people into many countries of the globe as inputs to the big spheres, like New Delhi and Tokyo, and initiators in areas short on raw creative talent or know-how with regards to new creative tools.

Increasingly, other countries came to appreciate and value the Australian perspective on free thought and innovation and to demand services from high grade Australian consultants in the areas of medicine, environment, recreation and biotechnology.

On either side of the international political fence Australia faced strong competition, most intensely from the human capital and brainpower of Singapore and Hong Kong.

The decision to supply or invest in Asian markets required in-market knowledge and presence which provided Australia with opportunities in business facilitation and consultation. Europeans turned to Australia first for advice, especially about China but also about Asia in general, because of Australia's proximity, personnel and political neutrality.

Manufacturing

The Australian Government imposed tariffs on imported manufactures and threatened further action in retaliation for lost export markets. The competitive vice that had squeezed manufacturing industries through the 1990s was released, but the government policy was not to restructure the economy in the direction of manufacturing.

In a partitioned world, there was less downward pressure on the price of manufactures. The retraction of export markets caused closures and slimmed manufacturing industries in Asia more effectively than the World Bank command to restructure and revert to core business in the late 1990s, but the cost price squeeze in this sector would continue into the future.

In Australia, some industries scheduled for downsizing were revived by the pressure shift: the Australian Government was happy for car plants and clothing factories to fill out their capacity, but no more factories were to be built. Protectionism would mean not reversion, but diversion!

In the area of IT, communications and other high-tech manufactures, policy

makers allowed some growth. Further, Australia re-evaluated the potential to add value to comparatively advantaged primary sector outputs.

The Australian government was eager to skew manufacturing developments in the direction of products with a high knowledge or innovative component that could be assembled so as to be compatible and competitive in a freer world market. In multilateral and bilateral negotiations alike, export markets (and import replacement markets) could be won on the merit of value and quality.

In the industrial age the value was in manufacturing; in the information age, latent as it was, the value was in knowledge.

Towards the end of the 20th century, Australian policy makers had recognised the increased value of knowledge and the forces of economics had been marshalled to funnel resources in this direction. Later, trade partitioning invited restructure of protected industries; resources would be lured away from competitive industries and cutting edge production. Lapsed competition in the closed world extinguished the urgency of transition required by the dawning of the information age.

In a partitioned world, knowledge opportunities were not openly available, but were strategically available — and opportunities would be increasingly available in the world of multilateral trade negotiation many felt would re-emerge. Australia would be disadvantaged if resources had been shifted into industries that were not competitive in a global economy.

In trying to keep the developments required by the information age on track, decision makers were constrained by domestic and international politics.

Politics

Political bind — domestic

At home, the Australian government was bound by a three fold political problem:

- lost export markets led to unemployment and sparked recession;
- retracted trade opportunities made it difficult to justify keeping markets open; and
- a three year political term constricted implementation of a long term strategic response.

A large proportion of society was affected by altered international trade parameters. Australia experienced a rise in business bankruptcies in trade exposed sectors, and a marked increase in unemployment levels. Anxiety manifested itself as social tension in regional and rural Australia and in isolationist sentiments drawn from a retaliatory logic and nationalist resurgence.

A strong advocate of free trade, the Australian government lagged in the resurrection of tariff barriers. The government hoped that market access would be sustained or, through bilateral concessions, market access could be obtained for export products. An illustration was the case of pork imports to Australia in 1999. On the tail of the US lamb tariff hike, America requested unlimited access to the Australian pork market. Then Prime Minister Howard, while referring to the hypocritical trading policies of the US, ruled out retaliatory actions. Cheaper US imports joined Canadian product alongside local pork on Australian supermarket shelves. In the early years Australia ran up a sizeable current account deficit.

Australian politicians won support with social welfare and retraining opportunities for people employed in the hardest hit sectors, notably agriculture. Farmers shifted resources into the production of goods for secured markets. Some people left farms and were employed in revived manufacturing plants, while others

shifted their occupations from being farmers to rangers of the newly sequestered national parks.

Strong and decisive leadership was required to secure internal cohesion. Leaders appealed to the electorate for patience and set about formulating policies that would take Australia to greener economic pastures.

Political bind —international

Preceding any strategic planning was the need for Australia to identify the new world order. Alliances, and the longevity and depth of alliance, were crucial parameters within which Australia had to reconfigure its economy and international relations. Australia's economic restructuring would be a function of the new world order and Australia's chosen place in it.

The debate concerning the potential for Australia in a bilateral world and a recovered multilateral world was as long lasting as it was wide ranging. In response to the community consensus eventually reached, Ministers drafted a strategy of no strategy: Australia would aspire to be politically neutral and balance a multiplicity of bilateral arrangements. As far as security was concerned, Australia would passively stand with the US and with respect to commerce, the country would attempt to seize opportunities wherever it could.

Advocates of such opportunistic neutrality highlighted the vacuum in knowledge-based trade that emerged in China and China allied countries, once detached from the US. They also noted the other opportunities for resources and high value, clean and processed food exports to these countries, notably China, Hong Kong and India.

Neutral advocates pointed to the Australia-China complementary resource endowments and stressed high value services. Australian education, legal and political services were particularly attractive, often because they were not perceived to have the same stamp of imperialism associated with the US. Conversely, some Australians felt that close relations with the US would affect access to these markets, dilute Australian culture and mean the sacrifice of Australia's sovereign rights.

The Australian Business Futures scenario process identified a crude version of this quandary in an early workshop session.

There is de-globalisation and increased concentration on trading blocs resulting in the favourable development of our relationship with Asia (and an opportunity to sell our skills to assist recovery) or, less favourably, in a reversion to cultural trading blocs with implications for our multicultural status.

Of course, this dilemma was not new to Australia — it was a situation the country had spent decades coming to terms with. The global rearrangement that had taken place merely expedited the process.

A right wing pro-US faction developed in Australia claiming a policy of neutrality would jeopardise our regional security and access to US technology, satellites and finance. Moreover, they argued that US technology and high tech equipment imports were essential inputs to continued innovative and

competitive production markets.

The Australian government was sobered by the prospect of potential loss from overplaying its hand, but more sobering than the US related gamble was the risk of losing the strategic commercial relations developed with US allies in the Asian region. Relations with Japan, Korea, Taiwan and South East Asia had secured Australia's development in the post-war period. These countries provided large export markets and were primary investors in a number of vital projects. In the primary sector, in high level manufacturing and increasingly in services, these investment partners had contributed vast amounts of capital and know-how.

The US had been a big investor in Australia, but American input did not rival the detailed and hands on contributions of the Asian partners. A noteworthy case was the huge North-West Shelf gas development. It was trading giants Mitsui and Mitsubishi (MIMI) which combined to lure BP, Shell and Chevron to Australian shores and partner with them in this massive investment. MIMI continued investment to develop additional phases in the project and supply other Asian national with gas up to 2015.

The *sogo shosha* and *chaebol* had huge and diverse investments in all facets of commerce in all parts of Asia. In the economic shake out they were destined to grow stronger. Some Australians warned of the role of these companies in perpetuating a quarry mentality, but things being as they were, an optimistic approach to developing value adding businesses, such as services, around comparatively advantaged products was preferred.

The Switzerland of Asia

Perhaps the most persuasive argument for a neutral Australia was its aspirations as a regional facilitator. The institutional weakness that characterised so many Asian nations presented an opportunity that was expedited by the collapse of multilateral forums and the ensuing tension.

Australia had positioned itself well to take on this role as regional facilitator. A successful institutional restructure in the period from 1985 to 2000 positioned the country strongly as a regional player. Australia's diverse and open culture and population was encouraging to its neighbour,s and it had continually pursued a conciliatory approach. Notably Australia recognised that the idea of 'one size fits all' institutional change could not deliver the commercial and social results needed.

In earlier years, Australia's contribution to WTO negotiations and similar treaties was considered second to none. As a regional facilitator, Australia extended this role, providing leadership on social, environmental and political issues. As a broker Australia played a key role in developing a substructure upon which nations could again convene to discuss multilateral trade.

As a precursor to this role, in 1999 Australia had drafted a plan between China and several South East Asian countries regarding sovereignty of the Spratly Islands in the South China Sea.³¹

Cohorts and competitors

Singapore

Singapore was a key benchmark for Australia's continued economic progress. The island state was aligned with the US, employed a successfully fused Eurasian socio-political model, had a high *Huaqiao* occupancy and was positioned squarely in the centre of Asia. Singapore had developed strong competitive resources and strategic tools for the new age economy: powerful high-tech thought and production capability, the

31 *The Australian* 27 July 1999

employment of young and innovative CEOs and, late in the 20th century, access to superannuation funds to finance strategic and promising ventures.

Japan

Japan battled with its changing social and economic paradigms in the early years of the 21st century. Its policy of ethno-economics and social concern took it closer to a European model, but its businesses and public institutions — not least (and second only to the US Federal Reserve for punching power) the Ministry of Finance and the Ministry of International Trade and Industry — loomed large and remained active on a regional scale.

The power of the Ministry of Finance came from a deep sense of nationalism and collectivism in Japan. The Japanese allowed their government access to their savings by opting for postal accounts at minimal interest, believing that the government would use the funds wisely to leverage the nation's wealth and standing in the international arena. And indeed, the Japanese government has consistently acted with honour and enacted strategies for the net good of its people.

In Japan, tight public and private sector partnership remained an accepted system, and a system that was used as a strategic weapon in international endeavours. The harmonious actions of business and government in 1995 were a good example. In that year, the Ministry of Finance prodded the yen and inspired investors to drive it skyward on currency markets worldwide. Then, as commentators around the world fixed their focus on the price of Japanese exports, corporate Japan bought up the tools of production and commerce in Asia (then at much reduced prices) and so shipped low level production off-shore. When the purchasing was done, and the Japanese economy successfully hollowed out, the Ministry of Finance allowed the yen to re-align. The Japanese Government then went about selectively complying with the calls of the US to open its market to (offshore Japanese) imports.

The Japanese economy was shaken in the 1997 currency crisis and, in the eyes of Western economists, had much to do in the way of restructuring; there were social problems to attend to as well. But, as with Western misconceptions about China and other parts of Asia, the Japanese way was not the Western way, or, more importantly, the Western way was not the Japanese way. The West underestimated the power of Japanese nationalism, not as a concept, but as a driving force in the individual. The West also underestimated the Japanese perception of knowledge. The hollowing out of the economy in the 1990s was not merely an exercise in land and labour sourcing; it was a fundamental strategy to push technological and intellectual endeavour to a higher plateau in offices and factories throughout Japan.

Japan had other advantages which prepared it for a partitioned world. Of course its security was underpinned by the US, but Japanese corporate relations throughout Asia, notably in China, consisted of a strong and intricate weave. In some sectors in some parts of the East, the huge Japanese trading houses, *sogo shosha*, quite simply ruled the roost. Further, the currency crisis stripped the fat off corporate and national Japan (and Korea, and Asia generally) and prepared them for another crisis.

Europe

Europe's role in all of this was one of teacher. Apart from a lack of certain resources, it was best equipped to trade and survive as an individual bloc. But as the seed that developed Australia's social and political structures, and as a purveyor of mature and equitable social logistics to this day, Europe provided Australia with the models and standards by which to balance a multiplicity of relations.

Australia's response

Capital and labour

As a starting point, Australia had to fortify vital macro-inputs, capital and labour, then set about developing micro-economic policies and vehicles to spearhead efforts in the in the partitioned world.

Global capital was restricted by a fall in confidence and the capital controls employed by some nations. Money for R&D was short and funding for innovative start-ups was scarce. Australia had to test and market their commercial strategies in order to obtain funds for development. The government tried unsuccessfully to gain access to the nation's pool of superannuation funds.

By the turn of the millennium, the education component of the labour base had been weakened. As Bill Readings explained, educational institutions had been crippled by globalisation.

The academy has become a victim of globalisation in three important ways: In the first place, with the demise of the nation state to the transnational forces, it has lost the *raison d'être* that it held for so long as the nurturer and promulgator of national cultures. In the second place, it itself has been globalised with respect to the universalisation of higher education with the associated effect of the homogenisation of (a) pedagogies, (b) research profiles and methodologies ... Finally, the academy has suffered very profoundly as a result of greatly reduced state support which has led to its unenviable corporatisation — what was a (state funded) community in search of shared meaning has become a (profit motivated) collective in search of shared interests.³²

In the early 2000s, education and labour resources were being threatened further by recession and the investment void. However, the government acknowledged that the sustained development of education was the single most beneficial policy for the knowledge economy.

Australia was well served by many and varied small and medium sized enterprises (SMEs). Indeed, in developing unique services and products, it was one of the few advantages Australia had over competitor countries in the region.

The breakdown of the IT industry had slowed the brain drain to the US. Australian business, through government prompting, took up this opportunity to secure and improve its workforce, accepting an increasing role in education. Recession in the US had also slowed IT innovation. This prompted Australian government and business to devise an innovation system that underpinned the development of enhanced and new products and services.

High unemployment levels pressured the government to cap immigration. But immigration provided a vital input to business — skilled immigrants provided necessary additions to the labour market and the multicultural nature of Australian society was of timely importance, a crucial part of the country's international interface.

32 B Readings *The University in Ruin* Harvard University Press 1996

Market access

In the international arena, both public and private operators had to re-establish connections in potential export markets, then substantiate these opportunities with quality goods and services.

In the bilateral world that developed until 2010, trade had not ceased completely and links to export markets still existed. Transnational companies provided some links and the Australian government shifted to using public spending as tool of negotiation. But the most extensive access was leveraged through existing access by strong marketing and an interface consisting of government negotiations, Austrade services and quality business.

Closed trade had focused the world's most dynamic industries on tailoring and Australians had always been good niche operators. But often the most innovative businesses were the most cash constrained and least equipped with the high quality peripheral services needed to seal the deal. Additionally, a world of intra-national collusion and sometimes cryptic trade alliances required strategic manoeuvring, in-market intelligence and nimble footwork on many and varied fields. Australian business acknowledged the worth of government (and private and hybrid) organisations in facilitating business.

As early as 1999, Austrade was reinventing itself as a flexible vehicle for trade and developed as an effective hunter and collector of niche markets. Austrade created a pool of intellectual capital and globally trained people for use by business. There was recognition of the necessity of marketing Australia as a location and gateway to Asia.

Quality products

To fortify export opportunities, the Australian government encouraged companies to produce to global standards. In a world of bilateral negotiations and asymmetric barriers, the economics of quality and, to a lesser extent, price, still held weight. In support of the longevity of this policy, an Australian think tank presupposed a world of trading nations would be reconfigured by the economic basics of comparative advantage.

Australian corporations were afforded economies of scale through collaboration, and government and large businesses modified their stance to increase their purchase of SME output. There was closer collaboration with New Zealand enterprises.

The Australian government had a conscious policy to maintain and develop efficient infrastructure where possible. Further, bureaucrats developed a tax system that was more supportive of innovation and entrepreneurship.

In short, in a world of decaying globalisation, imperfect trade and information flows, and political instability, Australia managed to overcome restricted opportunities by playing to its strengths of position, neutrality, multiculturalism and proximity to Asia and thereby creating its own markets and opportunities nation to nation. ●

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Brave Old World

For a variety of reasons, Australia does not pursue the new emerging opportunities presented by the globalised, knowledge economy in any systematic or deliberate way. We are happy to rest on the laurels of our achievements in agriculture and mining, 'new' manufacturing, tourism and in some highly acclaimed information technology and medical and bioscience breakthroughs.

Australia does have its local successes; in particular, there are people and enterprises in Sydney and Melbourne which have become global players in high-tech, knowledge-intensive industries. But there are not enough of them and it's not 'our' success. As like as not, these companies are owned by foreign investors from the US, Asia and Europe, and we don't seem to be able to do much about it. Our clever people are siphoned off in the brain drain to the US and Europe, our clever ideas are incubated here and then emigrate for commercial exploitation elsewhere, and major Australian companies like BHP, Lend Lease and AMP move their headquarters to Europe and the US.

Australia's industrial and economic base is narrowing and our ability to generate wealth from the newest fast growing, high return sectors is diminishing.

Australia's comfortable lifestyle, natural endowments, adequate social security system and laissez-faire economic policies have created a complacency that doesn't recognise an urgency for change — until it is too late.

Laconic Australia Lags Behind

January 2015

The text of last night's controversial speech by Governor General Sir Ruxton Laws-Jones at the first night launch of the IMAX movie 'Sydney 2000 Olympics: Look Back With Pride'. A Government House spokesperson has denied suggestions Sir Ruxton was 'under the influence'.

Have you noticed a lot of whingeing in the press lately from the intellectual nerds and so called 'futurists'? These superior beings have decided as one that this great country has 'missed the boat'. That we're too set in our ways, too protectionist and too taxed. Why don't these moaning minnies just leave the country, like all the other techno-maniacs and geeks who thought the grass was greener over in Europe and the US? Good riddance.

Maybe these eggheads have made it big in their noisy world, but at what cost? There is

more to life than technology. And there's more to life than being part of the rat race, especially as a cloned rat.

Some say that our standard of living has dropped compared with the rest of the developed world; that we have missed the opportunities. I say, look around you! Look at our beaches, our harbour. Our Olympic Stadium. And look at our social fabric: the backyard barbie, taking the kids to soccer practice, fish and chips at the RSL, taxi drivers who don't tug their forelocks but look you in the eye as an equal. What price our unpretentious Aussie lifestyle?

The moaners say that our protectionist trade policies have cut us off from the rest of the world. Let's be frank: that just might be a good thing. Speeding ahead with the online obsession — globalisation — many nations have lost their identity. You walk through the streets of London and hear a hundred languages being spoken; none of them English. You walk through Europe and what do you hear? — Yank gangster slang. Here, I think we are quietly proud of one very important thing ... the Australian lifestyle. Maybe we didn't make the choice consciously, but maybe our slow cautious jackaroo manner echoes our geography. We *are* an island. If God had intended us to go global we wouldn't have had those huge grinding and tearings of the earth that separated us from South America and from Asia.

When I look back I think this country started to come to its senses at the end of the millennium. There was the landslide vote against the republic. Why fix it if it ain't broke? The disasters caused by Y2K in Asia were a lesson for all of us that you can't trust technology. The obsession with globalisation and the so-called internet was shown up for exactly what it was — the emperor had no clothes! Just like all the sexpots on the internet.

Did you see all those X-rated sites before we closed them down? Most of them originated in America. When people say the Net spearheaded the knowledge age, I say, yeah, the carnal knowledge age.

Okay, so maybe we never quite became the Clever Country, but then a lot of other countries became a bit too clever by half, didn't they? How many of you want to go off and live in Bangalore or Bangkok? Strange, isn't it? — not a single hand shot up. But they'd all come and live here, if we hadn't closed the gate. And you can't blame them, can you? The stench. The noise. You can't walk the streets of any Asian Tiger-boom super-city without ear muffs and a smog mask.

Oh, but the moaners and the whingers say, 'poor Australia, sad Australia, we don't produce any global brands'. Oh, dear me. Pass the Kleenex. Sob, sob. We don't have the great Microsofts. We don't have the great Boeings. We don't have the great Nokias.

We have a great lifestyle, a great tradition, and great sporting champions. That's what we've come to celebrate tonight, isn't it? The 2000 Olympics. Any of you who were there can't fail to be stirred by the memories of that incredible time, the pride of watching our athletes win, the unbelievable excitement of massed crowds and spectacles, stirring the blood like nothing else can. And now this completely new version of the original IMAX movie allows us all to take a trip back in time. Eat your heart out Nerdsville!

Sir Ruxton reportedly staggered offstage to thunderous applause. ends

Scenario logic

This is a scenario characterised by:

- the emerging globalisation of financial flows, people, information and goods traded freely across borders;
- the knowledge economy and its implications for value-adding across the spectrum of manufacturing, mining, agriculture and services, which becomes the way in which companies and countries compete; and
- more and more economic activity happening online.

All the promises of the connected, networked economy and society are realised for many countries, but not automatically. Countries need to create their own place in such a globalising, interconnected world and make active choices to build their own capabilities and opportunities to take advantage of the new and emerging industries that arise.

Australia faces some fundamental obstacles in meeting the challenges of this new economy. Firstly, Australia has very little influence over the direction of development and growth of global business. It is a taker of global trends, not a maker and shaper. This is often exacerbated by physical distance from 'where it's all happening'.

Further, there is not a consensus in the Australian community, or within governments, about the best way to advance Australia's prosperity and about where the most potent sources of our comparative and competitive advantage lie. Some are vocal advocates of wholesale economic liberalisation and reform, while others say Australian jobs and industries must be protected at all costs.

To many it was arguable that Australia needed to reform. In mid 1999 sources as authoritative as the Brookings Institute, the World Bank and the IMF were holding up the Australian experience as the model economy.¹ It had weathered the Asian financial crisis surprisingly well and had sustained an economic growth rate of 3-4 per cent outperforming all the other developed, rich nations including the US. As a consequence, calls for more interventionist economic and industry policies fell on deaf ears.

The only dissonant note was that this economic miracle failed to produce jobs; unemployment in Australia stood persistently at around the 7 per cent mark. Job losses and the economic pain of restructuring fell disproportionately on the Australian community: rural and regional Australia were badly affected, as were young people and males.

Lack of control over both upper and lower houses of parliament prevented any government from securing mandates for change well into the 21st century. The inherent conservatism, lethargy and cynicism Australians felt towards government and business continued to be felt at the polls, inevitably leading to

1 Hartcher P 'Australia: the Model Economy' *Australian Financial Review*, 14 August 1999

governments at state and federal levels without the numbers in both upper and lower houses of parliament to push through significant, if painful, reforms to move to the new knowledge economy. It also resulted in a knee-jerk, short-term approach to policy formulation.

The end result was that Australia lacked a clear vision and the courage and conviction to make the changes needed for transition to the new economy. Given our economic successes, there was no urgent or compelling reason to do so.

Distant physically from where it was all happening, and protected in key sectors where international competition was a key to the future, Australians didn't realise how far they were out of the race. It was a slow melt-down of hopes, aspirations and belief in Australia and its future. Those who recognised how far Australia was out of the race found great employment and personal success in the US where they mixed their brains and ideas with their peers from around the globe, creating new enterprises and wealth within the US.

Why we didn't make it in the global knowledge economy

1. Australian governments failed to demonstrate competence in creating a good home for value creation in new knowledge industries in Australia.

Reform of taxation and welfare sectors were not effectively implemented: tax reform was compromised and made unworkable; tax increases were stymied because income earners were not prepared to see their taxes squandered on ineffective social welfare approaches.

Employment continued to be taxed, with no rewards for risk taking.

2. There was a loss of social cohesion as Australia's middle class disappeared and the gap between the haves and have-nots widened, causing disruption to economic and social well being.

3. Australian governments lacked a clear mandate to govern and were unable to get the numbers in both houses of parliament to push through necessary reform. In the face of small majorities and anger in the electorate, governments caved in to protectionists.

- Tariff removal stalled
- Privatisation of government enterprise ceased
- Large inefficient industries and organisations successfully lobbied for government support
- Free trade on the web was opposed
- Employer groups and unions became primarily lobbyists, not industry developers
- Major reforms ceased.

4. Australian business and government failed to anticipate the skills, experience and know-how required to be competitive in the global and knowledge economy or were not able to implement changes effectively.

- Australia had the wrong skills and not enough of the right ones
- The education and training system was not best-in-the-world

- Education and training were not accessible to all
- Australia could not bridge research and business cultures to commercialise Australian discoveries
- Australia's tertiary education sector was not funded and resourced to achieve best-in-the-world standards of tertiary education and high levels of participation.

5. Australia did not grow major global companies or successful global brands, nor participate successfully in global networks.

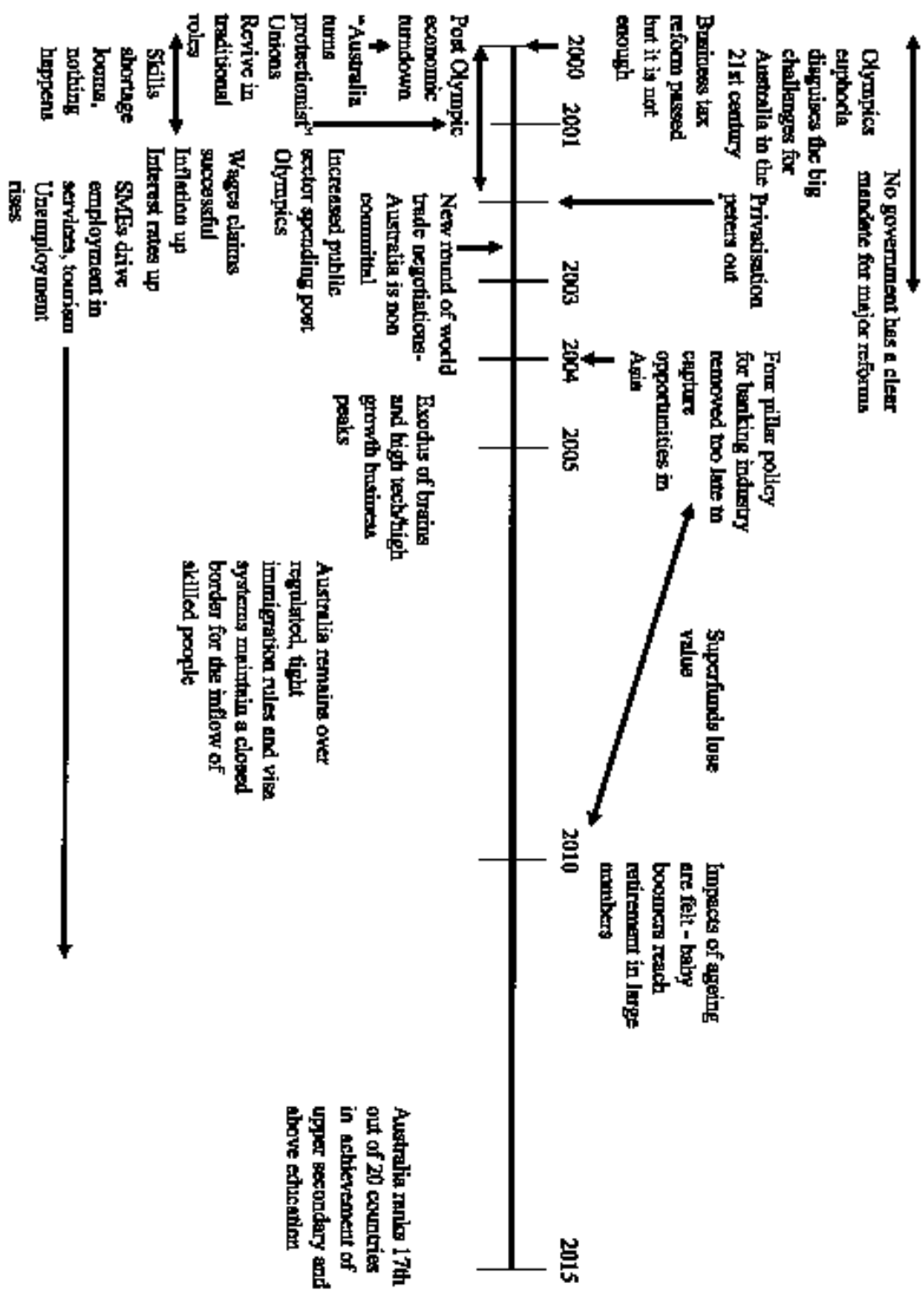
6. Australian companies failed to capitalise on opportunities:

- for service businesses in Asia
- for new online business, new intermediaries and new industry structures
- to serve the needs of our own leading edge consumers of IT and communications technologies
- to add knowledge to resources industries to develop non-price competitive advantages
- to provide a transport hub into Asia capitalising on logistics and transport support prerequisite for e-commerce
- from the growing awareness of environment management and repair
- to exploit niche markets at home and abroad.

7. Australia failed to develop and nurture an enterprising and innovative culture: the Australian approach to the 21st century is laconic, characterised by:

- short term thinking
- being too embarrassed to have a vision for the future
- having no confidence to be the best and no good understanding of how to be
- the approach of 'life's been good so why change it? Let's keep it the way it is'
- anti-intellectualism
- Australians not hurting enough to change and make the courageous decisions
- Australians not having the mind-set to take on the emerging challenges and risks.

Brave Old World — timeline



8. Immigration amplified the impact of population ageing and dependence upon social welfare.

9. Technology failed to reduce the tyranny of distance in Australia and rural and distant regional communities could not access the spoils of the knowledge economy.

Scenario 1 — Global success What could have been

A connected, online, screen based economy. The internet makes possible new products and services, new ways of organising markets, connecting with customers, managing relations with suppliers, structuring corporations and designing business processes.

Consumer power defines the products and services available, where and how they are delivered.

Business operates across national borders, there is a free flow of goods, capital, people and information.

At the extreme, all but the newest and most complex opportunities are visible to all businesses around the world at the same time, stripping away bases for comparative advantage built around access to information, access to markets, new designs and ideas. In particular China quickly competes away product uniqueness, driving rapid and aggressive competition for new ideas, stronger brands, secure customer relationships and unique and defensible technologies.

Information and communication technologies and the success of new net-based businesses have stimulated entrepreneurial behaviour and an aggressive approach to finding and exploiting new business opportunities. This leads to challenges to traditional industry structures, challenges to the competitiveness of many large companies and rapid transformation of most service sectors.

Scenario 4 — Global failure Opportunities lost

Australians are great consumers of IT and the web. They are supplied with information, goods and services from around the world and enjoy reduced prices, wider choice and the option to not buy locally. Our ability to afford these erodes as our economy slips behind.

Online technologies, with sophisticated logistics and service-oriented transport, give Australian consumers the latest from the US.

Skilled Australians are welcomed to the US and Europe, offered high salaries and good career prospects. High growth, often technology-based businesses, migrate easily out of Australia — the flow is free and mostly outwards.

China competes away many of Australia's traditional economic activities such as manufacturing, and Indian-owned software and IT service companies introduce very competitively priced services into the Australian market.

Australian companies are few and indistinguishable from the rest. They are forced to compete on price in every market.

An enormous transformation has been achieved — poorly performing companies, inappropriate structures, products and services, and poor customer focus have all been swept away by the new kids on the block. They're not Australian companies, but Australia offered them a great test market and Australia was often first to benefit from their vision.

Scenario 1 — Global success What could have been	Scenario 4 — Global failure Opportunities lost
	<p>Australia has an even higher level of foreign ownership of companies.</p> <p>While the Australian share market suffers, many new entrants joint-venture with the locals to capture the historical benefits of brand names and existing customer relationships.</p>
<p>Lean companies outsource peripheral and non-core activities leading to many back-office functions being performed by specialists shared between often competitive companies. The customer interface is vital: brand, marketing, information and customer service are the keys to winning business.</p>	<p>The development of global organisations to perform back-office functions is consistent with the emergence of global distribution businesses and global telcos. There are global transaction processing businesses, global recruitment and HR functions, global meetings schedulers ... the list goes on. This occurs wherever benefit is to be gained from access to global information and writing off computing and systems costs over vast numbers of small transactions.</p>
<p>The benefits are felt unevenly across society and nations, but the protests are not heeded — the social cohesiveness of Australian society is challenged.</p>	<p>Australia hurts economically but is fair. The sense of fairness is intact because more and more Australians — either because they are ageing, or unemployed, or in frustratingly non-challenging employment — fairly share the burden of being a global backwater.</p>

The Scenario 3 story

Key characteristics

Australians repeatedly resisted change and lost opportunities

As the 20th century progressed, Australia moved from being the land of optimism and pride to being a nation whose only vision was to return to the past. Australians felt good about the days of the Hills Hoist, garden barbecues, a White Australia policy and full employment. Symbolically, at the end of the millennium, there was an overwhelming rejection of an Australian Republic — a vote that had more to do with ignorance and lethargy than with a good understanding of the issues.

The Olympic Games was a political and economic fillip. The euphoria as our sporting heroes shone as strongly as the Sydney sun and the eyes of the world were on Australia sadly disguised the real issues. The economy in Sydney was artificially boosted by the level of construction activity, of road and air transport facilities, sporting stadiums and dwellings, plus increases in the price of property. A similar level of investment was made in Melbourne in sporting and transport infrastructure creating strong levels of employment in this sector. The opportunity for Australia presented by the Olympic Games should have been to do with positioning brands internationally, creating new service industries either around design or construction of facilities or facilities management, green design, electronic ticketing and smart payments, intelligent transport systems and other services. Instead, Australia chose to gain a return in terms of temporary high levels of employment, merchandise sales, tourism and hospitality. Entry visas were difficult to gain and bureaucratically enforced, destroying any sense Australia wished to convey of an open and global nation.

After the Olympics there were the Commonwealth Games and cricket and soccer and tennis — and weren't the Aussies doing well! It worked for some, indeed many, but other Australians wanted to know what the cultural, economic and social destiny of this country would be and waited for leadership from government, business and even the seemingly forever silenced academics. It didn't come.

Government response to the post-Olympic slump was to boost public sector spending in publicly funded infrastructure. This increase in public expenditure coincided with the allocation of funds to grants and subsidies to Australian industry in 2001.

Australia equivocated on economic and industry policy

Australia's approach to economic and industry policy was neither fish nor fowl. Community backlash in response to losing Australian jobs and industries put a dampener on the zeal with which governments pursued economic reform, privatisation and competition policy agendas. But at the same time, governments were nervous about picking winners and shied away from intervention to carve out new opportunities and markets and build Australian capability in the new and emerging high value, high return, high growth sectors of economic activity. Australia oscillated ineffectually between approach and avoidance, and ended up like the proverbial rabbit in the headlights.

This situation manifested itself in two ominous and counter-productive developments. On the one hand there was a resurgence of protectionist sentiment in Australia and a slow down of efforts to open Australia up to competition, improve the cost structures for business and make its capital, infrastructure and labour markets more flexible. And on the other, there was an almost pathological aversion towards more activist industry development policies to help Australian business to 'tool up' to capitalise on opportunities generated in the new era.

Governments' aversion to active industry development policies

The economic orthodoxy that markets always deliver the optimum results proved to be a persistent philosophy for Australian governments. It blinded them not only to the structural flaws and imperfections in Australia's economic and industrial base, which markets cannot address, but also to the fact that the Australian business environment offered few competitive and comparative advantages in a wired, networked world.

Deliberate and targeted action was needed to overcome Australia's critical mass, lack of scale disadvantages and disadvantages stemming from the fact that the Australian business environment was predominantly characterised by small and medium enterprises. Action was needed to capitalise on new technologies, to aid in the commercialisation and investment-readiness of nascent Australian inventions and scientific advances, and to secure new markets for innovative start-ups and new ventures. This required governments to take explicit initiatives in collaboration with the business community, which they were loathe to do.

Failure to create new business models and enterprises as the source of growth in the new economy

For growth to be sustained, companies (and Australia as a whole) needed strong

coverage in each of the three 'horizons'² of business and economic activity, as follows:

Horizon 1	Traditional, core and mature businesses: for Australia, these are mining, agriculture, manufacturing, metals, chemicals.
Horizon 2	Growth engines: for Australia these are service industries like communications, film, recreation, health and education, construction, business and personal services, retail, finance and insurance, transport, hospitality.
Horizon 3	Future growth options: for Australia, these are information and knowledge-based industries like biotechnology and health, new internet, IT and electronic commerce services.

Australia was not well paced in these Horizon 3 sectors, which are based on innovation, entrepreneurship and knowledge. Countries that innovate grow faster than those that don't — the challenge was for Australia to create the new business models and enterprises which were the source of growth in the new knowledge economy. Australia failed to meet this challenge early enough and well enough.

Geopolitics

Australia turns protectionist

Australia was an active and supportive participant in the Seattle round of talks on world trade held in 2000. However by 2003, when an extraordinary round of meetings was called to rein in US participation, it was a different story.

A study first conducted by the Australian National University in 1990, and at two yearly intervals since then, revealed that the Australian community was one of the most protectionist in attitudes in the world, overwhelmingly backing protection for local industry from imports.³ The protectionist view held by US citizens was similar, although not as strong as that of Australians, and there was increased domestic political pressure and lobbying for increased trade restrictions from the US in 1999 through to 2002. These received a great deal of media attention, building the rewards to politicians in the popularity stakes for backing this particular policy. In doing so, the role and status of the unions increased. By 2001 popular opinion sided with the protectionists whose position was to reduce tariffs no further than current levels and to impose selected trade restrictions. The Federal Government of the day complied; the opposition was on-side already. Australia became protectionist once more, albeit at reduced levels than previously.

By 2001 only the car industry and textile, clothing and footwear (TCF) industries were receiving any significant levels of protection from tariffs. The agreement in place was that tariffs were to be reduced to 15 per cent in 2000, pause until 2005, and then be reduced to zero by 2010. Further tariff reduction stalled in an effort to save local manufacturing jobs, particularly in vulnerable regional areas. The car industry was a significant employer in South Australia, which faced a bleak economic future: there was real potential to lose at least one of the two companies located there. Another major car company, located at Geelong, was also significant to the local economy of this major Victorian regional centre. Textiles, clothing, footwear and leather industries offered employment to less skilled workers and had strong traditions of employing migrant workers and workers in regional areas. In addition to stalling tariff reductions, other below-the-line subsidies continued or were reinstated, such as government procurement favouring locally manufactured/assembled cars and other favoured supply conditions for local companies.

Pressure from rural communities achieved quotas, and in some cases absolute barriers, for imports of a

2 White, Baghai and Everingham, 'The Alchemy of Growth' McKinsey & Co. reported in *Australian Financial Review*, 20 August 1999, p 56

3 Kelly J 'Free trade report exposes NIMBY traits', *Australian Financial Review*, 8 July 1999, p 21.

number of food items, such as pork, fruit juice concentrate and salmon. Tasmania was already a fragile, depressed regional economy: could the local salmon fishing industry be exposed to import competition and threaten its viability? It was a risk the government was not prepared to take.

Another sector which received favoured treatment was Australia's IT, software and multimedia industry. Recognised as a growth and strategic industry for the 21st century, there was strong pressure for protection. Because computing software and hardware was an input into so much of Australia's economic activity, tariffs could not be applied without raising the input costs. Government grants and subsidies were applied as well as favoured government and government enterprise procurement.

Economic implications

The economic implications of these developments were, in the first instance, positive in terms of the number of jobs retained. The economists' argument was that it was less efficient and led to an inefficient application of resources and lowering of living standards. It possibly caused higher costs to government in its procurement and had cost and opportunity direct cost implications for government spending on industry programs and subsidies. There were few cost implications for downstream industries as a result of the tariffs.

The longer term economic issues were more significant. The retention of tariffs took some of the drive out of firms which would, under a zero tariff regime, have been forced to develop export markets. The protection of the software and multimedia industries was more devastating. In these sectors exposure to global competition, leading edge consumers and competitors were vital ingredient for success in the 21st century. Once our companies were protected from international gruelling competition, they retreated from the leading edge and could best be described as a cottage industry beaver away somewhere down under. In 2015, a competitive, world-best software, multimedia, information and communications technology sector was the critical input into just about all business and commerce. Sadly for Australia, provision of information technology services to Australian government and industry were well off world's best.

As privatisation of government enterprise ground to a halt in the first two years of the new millennium, government continued to provide such utilities as energy, water, roads and rail transport — all critical inputs to the costs of doing business in Australia. Poor performance of IT suppliers and pressure on government and government enterprises to retain jobs eroded any possibility of providing low cost and efficient services to Australian companies and citizens.

Political implications

Australia's stance made it difficult to argue against trade restrictions imposed on Australia. There was no argument to shift the US on lamb restrictions, or Japan on restrictions to enter its rice market but this was always going to be the case, argued the protectionists. The Australian market did not represent a truly significant market for any nation, so what followed was expected to be a mini tit-for-tat tariff war between Australia and some of its trading partners. But the political implications were greater than expected and retaliation in some areas was significant. Textile, clothing and footwear imports from China supplied the majority of the Australian market, while by any total volume and value measure,

imports to Australia from China could not be significant to China. Australia's protectionist position came at the time China was negotiating its entry to the WTO. China was a good market for Australia in such areas as wool, cotton and minerals — these markets were lost overnight. Australia's relationship with Malaysia and Indonesia suffered, although the balance of payments was in Australia's favour and neither of these countries was impacted economically.

The Australian economy

Like the US, growth in Australia was reliant on consumption spending and business investment remained flat for the federal budget period 1999 to 2002. But domestic consumption could not form the basis of long term growth. Business commentators had noted that:

Some imbalances are now emerging that point to slower growth. The pace of activity is increasingly reliant on the consumer and increasingly this is leaking into imports. Neither of these trends is sustainable over the longer term.⁴

The year 2000 was a troubled time for Australian business. Y2K compliance had imposed on many organisations high costs and burdens in attracting and retaining skilled IT personnel. Further reforms followed: a GST was introduced on July 1; new accounting standards were introduced; there were tax reforms and superannuation changes. The result was compliance chaos, further costs in changing system software, and demands upon already stretched IT resources in companies. This outweighed any advantages to small business from the tax simplification reforms.

The demands on IT during the lead up to Y2K and during 2000 kept skilled IT personnel battered down and, in retrospect, acted to significantly divert energy, funds, skills and attention away from creating new products and services.

Wage claims, which had been kept well at bay for several years, began in retaliation to the new GST. Wages increases pushed inflation above 3 per cent and caused the Reserve Bank to lift interest rates; the major bank home mortgage at 30 June 2000 was 8 per cent.⁵

Until 2003 commodity prices were weak. No real strengthening of prices occurred until the Japanese and Asian economies regained their momentum and then a period of economic growth began in 2005. But the strength of commodity prices would never regain pre-1990s levels. During this period the dematerialisation of goods and hardware continued apace. More and more was transacted and traded in cyberspace, more and more could be received and retained in an electronic form, and micro-electronics, mechanics and biotechnology changed the nature of many processes which were previously materials-intensive. Minerals processing companies in Australia were affected by increases in energy costs when Australia responded to world pressures to reduce greenhouse gas emissions and switched to natural gas. Those companies that survived in Australia were less profitable, giving a poor return to shareholders. Some companies relocated to countries where cheap nuclear power was available.

In 2002, with interest rates up, increased public spending and increased protection, the economy went into recession. As a consequence, two further events created a downward spiral:

1. Erosion of the value of pension funds. Poor economic performance led to poor returns on pension funds invested in Australian companies. Compulsory superannuation was introduced into Australia in the early 1990s and large funds accumulated. The policy was aimed at errant baby boomers who had shown themselves to be profligate spenders and users of credit, ill-prepared for retirement. In total, the sum was large, but for many individuals their saving behaviour was too little, too late. When returns from investments

4 Blythe M, Commonwealth Bank, The Age Economic Survey, *The Age*, 29 July 1999, Business p 1.

5 Professor Neville Norman, The Age economic Survey, *The Age*, 29 July 1999, Business p 4.

turned down, this little became hopelessly inadequate. Baby boomer retirees, faced with perhaps 30 years in retirement, expected to continue the lifestyle they had been accustomed to and found they had insufficient savings. When large health costs were incurred, as inevitably happens in old age, their funds would be spent and these people soon became dependent upon government pensions.

2. The health system crisis evident in the 1990s was not solved, but patched up and glossed over. Private health funds and the interdependent private hospitals could not compete against a free service and were unable to procure legislation to introduce competitive strategies. The exit of people from the private system placed enormous pressures back onto the public system, which burst at the seams. Australians faced, for the first time in their short history, the prospect of a third world public health system. Governments were forced to introduce means testing for access to public health system and health costs for many became a heavy burden on their income. Population ageing, decreases in the value of savings and increasing unemployment exacerbated all of this.

Internal economic reform

The desire of the electorate to save industries and jobs also stopped the competition policy and privatisation agenda of governments. This reform program petered out by 2002. What was in place at that time was a partially privatised system: for example, in the electricity industry Victoria's privatisation program was well ahead of other states, but its efficiency as a sector was premised on a national grid and a competitive supply sector. Government ownership of the NSW generation infrastructure left the Victorian investors on a tilted playing field and these investors looked for ways to sell down or pass off their holdings. Losses were incurred; capital exited Australia and investor confidence was eroded.

Other down sides to the halt in privatisation of government enterprises were significant for different reasons:

1. The privatisation of transport assets had offered opportunities for consortia of finance, construction, logistics and transport companies from Australia and overseas to create integrated multi-modal transport companies, strategically placed to meet the demands for movement of goods around the world in the 21st century. These companies did not eventuate, the investment went elsewhere and opportunities to create new enterprises in Australia to service overseas markets were lost.

2. The privatisation program had generated a large number of mergers and acquisitions sufficient to place Australia at the forefront in numbers of mergers and acquisitions worldwide in 1999. This created new energy, new businesses, new products and services and, in addition, skills and experience in the finance sector and in government. These were saleable to neighbouring nations as they underwent similar reforms. The opportunity to sell expert services in these areas was squandered and the momentum generated from being at the leading edge was lost and not regained.

3. Reduced costs of doing business in Australia were not achieved.

4. Governments were faced with capital investment in retained ageing assets. In the case of the change over from coal to natural gas-fired electricity generation this was a very expensive exercise and placed a heavy burden on the public purse.

The Ralph review of business taxation in Australia in 1999 made recommendations on lowered rates of corporate tax and capital gains tax. These passed through the Senate and were important reforms. However they were not enough to give Australia a globally competitive business tax regime.⁶

Rules of the new technologies

Who sets the pace?

The rules were written in the US. The US market was so large that it established an unassailable position in internet business in the early years, and its strong economic position well into the 21st century meant that private investment in R&D and technology commercialisation, as well as acquisition of strong technology-based businesses from around the world and relocation onto US soil, kept it in advance of the rest of the world. Australian businesses were the target of global expansion of US internet businesses and were offered a lucrative and welcoming new home overseas. Australia watched as talented individuals and promising companies moved offshore.

Huge investment by US and European companies in biotechnology and genetics research created an insurmountable barrier to all other nations and companies. In a landmark ruling, an international court of law ruled that the companies which invested in the discovery of a particular gene could own that gene. This ruling pushed Australia out of the race: the cost to undertake gene research was unaffordable to Australian companies and public research institutions; the genes were unaffordable as a research tool or in diagnostic or treatment applications. The ruling also slowed the rate of developments in applications as numerous and leading research institutions around the world ceased research programs. This gave the gene owners the opportunity to recruit the best researchers from around the world, although the diversity and momentum of the previous research milieu was lost.

Australia fails to gain the full benefits of the online world

Technology failed to reduce the tyranny of distance. Australias telecommunications costs remained high compared with the rest of the world, incurring a further cost to doing business online. Information and communications infrastructure was not developed in regional areas and as a result, rural and distant regional communities could not access the spoils of the knowledge economy.

Australian regulators and policy makers were slow to realise the potential of this new online era: Australia only switched to digital TV in 2008; Australian governments were slow to let go of outdated technical standards and regulations and imposed new, restrictive regulation in the areas of privacy and security which proved onerous to business. Australia was not the place to do online business.

Drivers of business formation and growth

Energy and confidence

Australia did not become a good home for value creation. In fact, it was a high cost environment — high relative cost of imports, high relative cost of business inputs such as energy, transport, water. The energy and attractiveness of Australia for global capital waned. This waning was partly objective and rational, as the government pulled back from the economic reform agenda, and partly subjective, as confidence and optimism eroded the sense of being at the leading edge, of taking risks and being excited at the prospects. As the excitement went so did the skilled young professionals who chose to follow the big deals overseas.

6 Tim Colebatch quoted from Outlook Australia Forum — CEDA/The Age, *The Age*, 30 July 1999, Business p 2.

Technology

Online

During the years of the internet bubble on the US stock market, US internet companies were cashed up and very active in buying out vibrant and high potential e-business throughout the world. The Australian e-business sector was stripped of many of its star attractions, which were physically removed from Australia. Others carried significant US equity and worked hard to provide US investors with the returns they could earn in the US. Three strikes went against internet stocks: there were slower and lower returns than expected; internet stock fell to more realistic levels; and the size of investment required to build a strong online position was seen to be huge. When these three strikes were felt, investors removed their money, often leaving the Australian business starved of funds at a time of critical growth and requirement for reinvestment. The new owners weren't always supportive or knowledgeable of the sector.

New enterprises

Australia had always struggled with commercialisation of technology and scientific discoveries; its history was littered with myths and anecdotes. When the Powerhouse Museum staged a display of Australian inventions in 1999 it was acutely apparent that these inventions were really very historic; there were very few inventions from the last decade of the 20th century and only one or two from the decade preceding that. While that could be explained by our shallow, small and overseas owned manufacturing base and its relatively poor record in innovation, so could our lack of a service sector and online business innovation be explained by our lack of Australian owned service and online businesses of any size. The US got there first and Australian business did not have the ideas and courage to take up the challenge, the funds to back the investment, nor the commercial will to make the investment in Australia.

Logistics and transport hubs

Australia was well located with respect to East Asia to provide a transport hub for the huge movements of goods around the world. The emerging opportunity was firstly impeded when consortia formed to own and operate Australia's transport modes had their plans blocked by the cessation of government privatisation programs. This thwarted their plans to create multi-modal integrated transport businesses based in Australia and operating into East Asia.

Environment

Australians were quick to accept and use new energy efficient technologies, the new cars and energy efficient appliances. As with unleaded petrol and car seat belts, these reforms were received warmly and high levels of uptake were achieved. Australia became one of the important markets for energy efficient and environmentally friendly goods and services. Although these attract an import duty, they are not very price sensitive and are sold at good margins. There are no local competitive products. Although at one stage Australian universities were well positioned in the area of research into environmental technologies, funding cuts to universities throughout the decade of the 1990s and ongoing beyond 2010 meant that such research was taken overseas.

Skills for the new economy

The skills and acumen required to make it in the knowledge economy remained difficult to acquire for many Australians. A skills shortage that developed in the latter part of the 1990s became one of the great impediments to new industry formation and growth in the new knowledge economy. Australia had moved from a low-tech society to a high-tech one and cancelled out the jobs of many people over the age of 40. Australia then did not have the strategies in place to skill or better the skills of Australians in the new technological climate. Shortages in the blue collar (now known as the 'casual collar') sector were blamed on lack of apprenticeship schemes by major traditional employers. These organisations had gone through downsizing, rigorous restructuring and, in some cases, privatisation.⁷

In the 1990s industry restructure in Australia brought about neglect of learning, education and training. Industry restructure meant that, in many sectors, there were fewer large companies as companies downsized; outsourcing fed the growth of the small business sector; retrenchment also fed the small business sector and all of this led to less capacity for industry to pick up on the training responsibility. At the same time, apprenticeships were abolished or reduced, traineeships reduced and the previously large role of government in employment and training rescinded. The number of graduates from our tertiary institutions increased, but at an inadequate rate compared to competitive nations.

The proportion of the Australian population (aged 25 to 64 years) attaining upper secondary education and above only increased to 62 per cent by 2015 from 53 per cent in 1995. However this increase did not improve Australia's ranking. In year 2005 Australia was ranked 15th with Ireland. By 2015, the slide was further and Australia is ranked 17th out of 20 countries.

Australia ranked well alongside other OECD countries in terms of the number of tertiary graduates. However the health of and future prospects for the Australian economy depends on the capacity of the total workforce to match or improve on the education and skills of other competitor economies and the issue for Australia was that a large proportion of the population was poorly prepared for participation in knowledge intensive work.⁸

What the statistics did not reveal was the big question mark over the quality of Australian graduates. At the end of the 20th century, as Australia fronted up to the new millennium and the huge challenges of the knowledge economy, tertiary education insiders described the sector as appalling, depressed and rundown. Following budget cuts year after year, performance and evaluation requirements gave more credit to numbers of students through the system than quality of education. There were poor financial rewards for academics and no career path within and outside of the sector. It was achingly apparent that this was the biggest failure story of the century. Few academics were telling the story for fear of losing their jobs or funds, and for these they were reliant on the good will of industry and government.

The lack of workplace training and experience also meant Australia did not build up the skills and experience required to meet the needs of the global knowledge economy. By 2002 there was a huge skills shortage in key growth sectors which capped the prospects for business across the board.

Reasons given were: institutionalisation of the education and training sector; poor funding; poor recruitment and rewards for teachers; poor integration with industry; no account taken of future needs and future economic activities. Many reasons were given but no solutions were offered.

Perhaps the biggest lost opportunity for Australia was the chance to design an education approach which provided the skills so much in demand in the knowledge economy — not just the technical knowledge and facts and figures. By 2005 these could be provided more quickly and reliably by a computer. It was more of a question of how to think, how to identify and solve problems, how to be creative and generate ideas, how to think systemically and into the future. If we cast our minds back to the 1990s, it was in these areas that we believed we had most value to add to the knowledge economy. While Australia relied upon raw

7 Llewellyn M, *Australian Financial Review*, May 28 1999.

8 Curtin R 'Young People's Transition from Education to Work: Performance Indicators', Report to Dusseldorp Skills Forum, 1999.

talent struggling through a mire of unreceptive organisations, other countries were serious and very professional in the way they went about fostering their talent. An analogy could be drawn with Australian sport — in the 1960s we were pre-eminent in tennis and swimming, for example, but when we lost that pre-eminence we realised that while we were relying on the talent and tenacity of individuals, other nations were providing professional training and scholarships. The Australian Institute of Sport was created in this context. Despite the efforts of a few, Australia did not agree to an Australian Institute for Thinking, or mental gymnastics as one wag put it: it was Australia's loss.

Knowledge

Continued reductions in spending on R&D in both public and private sectors had impacts on the ability of Australian companies to be competitive and to develop unique technologies, products and services. Success in exporting was reliant upon unique products, suited to culture and values of specific marketplaces, and able to be protected from rapid copying by strong global brands and unique or protectable technologies. The investment to make all of this happen wasn't being made. The universities had no funds to take the sort of initiative seen around the world and exemplified by Cambridge Technology Park in the UK.

Immigration

Despite external forces to expand Australia's immigration program, it didn't occur readily, and then only in small numbers and on the basis of family reunion or people in desperate situations arriving on our shores. The arguments were not humanitarian but environmental: water pollution and scarcity in the south, land degradation, especially salinity and dependence on coal-based thermal power plants. The argument was that population growth put increased pressure on the environment. The costs to remedy problems and change over to alternative energy sources were huge and government funds were stretched to pay for social welfare and the costs of an ageing population.

The migrants who were accepted into Australia were dependent upon the social welfare system and amplified government funding problems.

An enterprise culture

For many reasons Australia hadn't developed an enterprise culture. Major companies in Australia were mere branch offices of overseas organisations and key decisions and investment were not made here. When the going got tough they withdrew, and exposed Australians to the challenge of creating their own business and employment. Australians did not meet the challenge and looked to government for subsidies and to prop up the 20th century myth of full time, lifelong employment. This was a further cost to government.

Finance and capital markets

There was so much money sloshing around in the international market place in 2000 that it was hard to believe that significant amounts of it wouldn't be attracted to Australia. The Olympics brought international attention to Australia, but it became evident that the most attractive investments were in real estate. Initially investors had shown interest and participated in Australia's privatisation program. Their fingers were burned in a series of backdowns by government

faced with electoral pressures. These investors were warned off.

It was considered that the business tax reforms of 2000 made a difference in attracting global capital, however this was not sufficient. Experts argued for increased tax incentives around R&D and targeted incentives for footloose projects to locate in Australia.⁹ Attracting such footloose projects and companies was expensive and often of short-term benefit. It was also the strategy used the world over by competing economies, so the footloose companies were in a strong bargaining position which they used to their advantage in achieving subsidies and favoured tax treatment.

Location of Australian business

High tech successes follow capital and markets and proximity to where it is happening

The internet market is global; its industry remains provincial. Personal networking is a prerequisite and the big deals are made where the money and markets are made: the US, and now increasingly in the youthful markets of Asia.

The shortage of skills needed to exploit the internet economy meant that there was more money than ideas and business propositions, which kept the power where the money was located and in the hands of the insiders. The provincial attitudes of the US meant that this was preserved mainly in the US, and more specifically two or three sites in the US meant long distance only as far as Virginia or Georgia.¹⁰

Australia struggled to keep technology-based start-up and growth companies and many Australian exports were to the US and were successful small high growth businesses. The reasons given for this exodus included Australia's tax system, which was considered anti-entrepreneurial and anti-technology, and access to US risk capital in a marketplace which was more welcoming and informed on risk.¹¹

The Australian government was not able to make significant inroads in assembling the economic elements of successful innovation and business formation and fell a long way short of finding ways to address the more difficult issues of culture, attitudes and critical mass. For start-up and established high technology, business, in a climate of change and rapid maturation of IP, access to leading edge ideas and proximity to leading edge customers, maintained the needed competitive edge and nurtured entrepreneurial ability.

Perhaps more intangible was the cultural cringe, which meant that Australian purchasers preferred the overseas product. As Australia looked backwards and inwards, this cringe got worse rather than better.

Business wasn't the only export. Silicon Valley, and indeed the US in general, the UK and Europe consistently offered salaries and financial rewards higher than those being offered in Australia. The US raised its quota of technology recruits from other countries to 200,000 a year,¹² creating a brain drain from Australia of highly qualified technically skilled individuals. In doing so it also enhanced its cultural diversity, one of the vital ingredients in the Silicon Valley success mix.

While many of these people would have preferred to make their lives and careers in Australia — indeed there was always a great deal of good will of Australians towards their home — the conservative and uncompetitive business environment kept them away.

Australia had remarkable success in tourism and leisure industries and could claim to be the leisure country of the world. The low cost of Australian currency made domestic prices for accommodation and services

9 Above note 6.

10 Crowe D 'Small town gang that's changing the world', *Australian Financial Review*, 12 May 1999, p 13.

11 Crowe D 'Exodus: Why Australia's high-tech champions are leaving the country', *Australian Financial Review*, 31 May 1999, pp 32-33.

12 Meredith H 'Net-talk: it's just mouthing off', *Australian Financial Review*, 3 June 1999, p 42.

affordable to many. Some of the successes were:

- (1) four-wheel drive touring;
- (2) retirement villages and all kinds of leisure services for the elderly, including phenomena such as the interest in genealogy (an Australian immigrants site now receives more than 10 million hits per day).

Ingredients for global success

Brand and reputation

Australians were so habituated to seeing wealth created from tangible assets that some of the intangibles of the knowledge, online economy simply escaped them. While Australian science and technology leaders were arguing for government to fund scientific research, which was important, other nations were also arguing for government and private sector support for knowledge innovation and thought leadership. This could yield results, they reasoned, in the capacity of companies to create new knowledge industries, to create exciting and original brands and to take the world by storm in online commerce. They were right and this investment did create a vitality and energy in those nations.

Innovation

This was at the top of the agenda as Australia entered the 21st century. A major initiative of government was an Innovation Summit, involving business and government leaders. Their thinking was good, policies sound overall, but implementation was poor. The greatest impediment was getting all of the components working as a system, with sufficient critical mass to generate not only the perceptions but the reality that this was the place to locate business. Australia failed to create a risk-taking and ideas-sharing environment, which was a matter of attitude more than policies and programs.

Competing globally for consumers

Australia was exposed to global competition in most sectors by the end of the 20th century and this had certainly brought home the importance of understanding customers and serving their needs. Australian companies were often working in small niche markets with tight margins — quick response, just in time and quality were essential and Australia did those well. What we failed to understand was a range of customer needs that could be described as ‘hype’. Usually embedded in the brand, often reflected in the commentary of the world’s most read business journals and the popular media, the greatest myth makers of the 20th century were in the US and this continued into the 21st century. Australians had neither the temperament, the habits nor the skills to do this. Australia did not read the major consumer changes until well after global competitors — our distance from the rest of the world meant we were too far away from the centre, where it was all happening. Australia became irrelevant, reinforced by our failure to be there at the leading edge and by our apparent market closure, in perception and in fact. Steadily and surely the Australian brand lost its value internationally.

Knowledge economy

Australia had a proud tradition in education and a proud tradition in producing scientists and engineers responsible for many of the most important discoveries

of the 20th century. Australia had high levels of participation in education, but questions started to be raised over quality versus quantity. Also, intellectual achievement was too often the outcome of adversity and perversity — it was the Australian environment that, people rose to fame and glory on the world stage. This was a high risk and high attrition strategy. Other countries weren't prepared to take these risks and valued the contributions of their intellectual elite sufficiently to make deliberate and strategic efforts to both recognise ability and to nurture and reward it. Most of the brilliant cranks and oddbods left Australia and were successful. Those that didn't were unemployed.

Society

Disruption in social values

In this scenario Australia has become an individualistic society which is up against hard times. Jobs are scarce, especially the ones that offer security and a full-time wage. Family is important but the threads that hold families together are challenged and face enormous pressures. From 2001 until 2015, the government purse has been less able to afford the costs of welfare, unemployment and ageing and has imposed policies such as mutual obligation. This has reinforced the feeling that individuals must help themselves, that the government couldn't and wouldn't help and that you helped yourself or went under. Mental illness became the biggest social welfare issue in Australia. The costs of welfare increased enormously but couldn't meet the needs. Money was not the answer, but government had no other answer.

Winners and losers

The elite prospered. To be elite was a matter of intelligence and opportunity to gain an international qualification and then employment in a US, European or Japanese firm. Needless to say Australia bred some of the best brains in the world. They went overseas for their tertiary education if they were able to afford it and then stayed there for most of their career. The intergenerational implications for this are profound.

Australia has established the best tourism industry in the world. Tourism and services are Australia's strengths, trading on a beautiful natural environment, friendly locals and a low currency value.

Baby boomers pass on the baton

Baby boomers had not saved sufficiently nor taken out the insurance they needed for retirement and health costs in old age. This imposed an enormous cost burden on the income earners of the day. The superannuation industry had not performed and with the recession in 2002, and ongoing economic malaise, loss of value of savings impacted savagely on retiring baby boomers. This caused widespread poverty and the need for government funded social welfare.

Reflections on global success for business in Australia

There are successful companies in Australia. They are here because of the passion and drive of their founders to create Australian business and to make jobs for young Australians. Competitive advantage takes many forms:

- supplying products to meet conditions peculiar to Australia and some small overseas markets, for example some irrigation components;
- technology based services business supporting overseas hardware and specific Australian systems and software applications;
- product development and manufacturing business as part of international companies, where the Australian location specialises in low volume/short run, flexible manufacturing; and

- technology based businesses based upon an initial discovery which is able to provide returns over a lengthy period. These companies tend to relocate overseas when the next generation technology or product needs to be developed and financed.

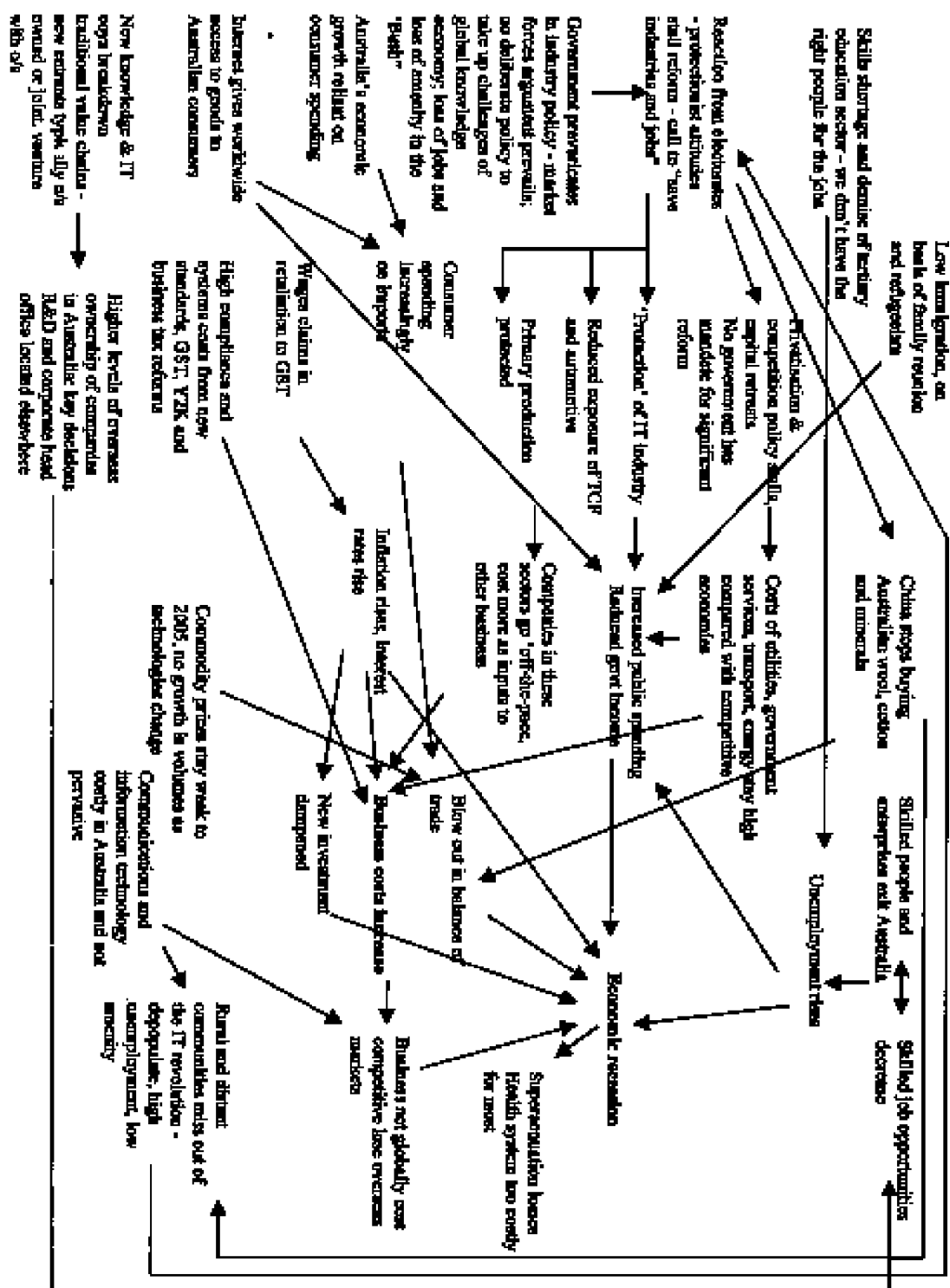
The wine industry has continued to be successful in the face of stiff international competition. Its success is attributed to cooperation between small growers and an understanding of boutique branding and marketing internationally.

The big companies have failed — they did not see the new competitive game and failed in the face of competition from new entrants, many of whom were overseas companies that redefined the bases of competition. Banks, retailers, insurance companies, health funds, government enterprises of all kinds, the traditional service companies — lawyers, financial advisors — were vulnerable and ultimately succumbed.

Inbound tourism is Australia's success story. As the populations of many countries aged and Australia continued to offer an attractive currency exchange rate, we became a popular destination for the not so wealthy but time-rich traveller. Four wheel drive touring and camping holidays are very popular — companies offering backpacker or outdoor adventure holidays are now successful businesses. Aged Americans and Japanese are able to winter in Australia, often more cheaply than they could live at home.

The private health, beauty and fitness industries have also developed to support these aged tourists, providing services and charging prices well out of reach of most Australians. ●

Brave Old World — systems map



Green is Gold

In this scenario, Australia finds itself caught up in a dramatic story about the imperative to protect the natural environment in a globalised world which has visibly stepped up the demand for energy before discovering, either through new technology or new processes applied to current technology, paths to sustainability. Australia shares global turmoil in the years before the successor to the Kyoto Agreement, the Bangalore Global Treaty, is enforced in 2009. It then finds itself in the fortunate position of being able to thrive as one of the leading innovators of global environmental management.

How Green became Gold

Press Release, 15 September 2015

To: All Media
 From: NBT Public Relations ('Nothing But the Truth')
 On Behalf of: Eco Breweries – *The beer you drink when you're saving the planet*
 On the occasion of: Eco Beer's 7th anniversary, the launch of a new product range and further initiatives to restore the environment.

Background briefing:

Who put the fun back into being green?

The legend of Eco Beer — the world's largest selling brand — begins with the intersection of two crises: one personal, the other environmental.

Australian business pretty much ignored the increasing evidence of planetary degradation and global warming until Sydney was struck by the notorious killer hailstorm in 2004 — yet another sign that global warming led to wild weather. Dwarfing an 'early warning' hail event five years earlier, the Death Storm of that remarkable summer resulted in 1700 serious injuries and 327 deaths. Scores of people were cut down while running for shelter from the beaches, others were pounded to death as they sat soaking and gridlocked in their window-shattered vehicles.

Property damage was vast. The ruins of the Sydney Opera House today remain a permanent testimony to the 'storm that changed the future'.

It didn't end there of course. Several other events combined in a short period to shatter the complacency of the commercial world. The bleaching of the Great Barrier

Reef continued to accelerate; childhood asthma rates soared; Sydney's water quality deteriorated; and 'mad cow disease' wiped out the entire beef industry, putting an end to the march of McDonald's.

Added to these local disasters was global climatic disarray. News, images and information pulsed through the web. Much of it was dire, but some of it contained the seeds of solutions, the ways and means of restoring the ecosystem. The latest biotech breakthroughs spread fast, while ideas for sustainable business increased and multiplied. The world market for restoration finally took off.

Enter Zach Reinhardt, a former board member of one of Australia's biggest energy and resources companies, who had for a number of years been undergoing a series of crises himself.

Following a series of environmental disasters caused by his company's mismanagement and abuse of natural resources, Zach resigned from the board, overcome by a sense of shame. 'Even my kids hated my guts,' he recalled later, after emerging from a long spell of clinical depression.

Originally from a famous winegrowing family in the Barossa Valley, with an MBA from Harvard, Zach took a few years off from corporate life to study ways in which business could re-invent itself for the 21st century. Impressed as he was by the dawning of triple bottom line accountancy and revised mission statements of corporations such as Shell Oil and Interface Carpets, Zach wanted to go further. Much further.

'I'm not interested in merely minimising the bad effects,' he told his children. 'I want to enhance the ecosystem ... Plus, I want to have fun.'

One night, cruising the web, Zach came across the description of a factory in Namibia boasting 'zero emissions'. It changed his life.

'Eureka! I've found it!' he enthused to his family, describing the revolutionary system he had found on the web and which had largely been designed on the web. It was a brewery. But it was much more than that. It was a brewery which converted all of its wastes into new products. Instead of feeding the four tonnes of spent grain a day to cattle which then caused excess methane emissions, it was used for the cultivation of mushrooms (traditionally an imported luxury crop). This not only restored the grain's pH balance, but provided an extra source of food. The grain was insinuated with worms, on which flocks of free range chickens fed — providing fresh eggs and white meat — and the refuse was put in a digester and converted to energy to power the brewery.

And what of the water, the most wasteful aspect of brewing beer? This too was turned into a resource. Its pH balance was restored by channelling the alkaline outflow into pools for growing spirulina, a protein supplement. Another product and additional income. The purified water was released into a network of ponds — a thriving fish farm, producing 15 tons of fish per hectare per year.

The more Zach learned about zero emission systems, the more excited he became.

And yet raising the capital proved a grind. 'We've already got good beer in Australia,' he was told, 'and it's not as if we're third world desperados.'

Venture capitalists changed their tune after the the Death Storm, which revealed the first chink in the armour of self confidence. This was followed by severe water

shortages, which converted Zach's 'loony obsession' into a welcome solution. By the time Bob Brown's Environmental Coalition was up and running in 2007, the first crates of Eco Beer were hitting the supermarkets.

Zach Reinhardt had gone further than the prototype which inspired him. Not only had several new products been introduced into the manufacturing cycle, but the sorghum grain was fully organic and pesticide free (as attested by independent inspectors). The launch slogan for Eco Beer was crude but effective: 'Get pissed, save the world'.

This was followed by Eco Draught — with the slogan 'Let's pull together' — a vitamin enriched organic drop that was a huge hit with the public, and became the flagship of the export push.

Zach soon had the time and the money to experiment with boutique brewing concepts, such as a low alcohol hemp ale, which appealed to ageing baby boomers. Another line was infused with safe smart drugs, or 'nutriceuticals', and it soon replaced Prozac as the mood elevator of choice. (Last year's top drop was VB — Viagra Bitter.)

Today, on Eco Beer's 7th birthday, Zach announces his company's purchase of all of Australia's remaining natural habitats still under threat and the recruitment of a thousand previously unemployed youths to act as bush carers. Once restored, all the lands will be gifted to the nation.

Eco Beer is also pleased to report on the success of two spin-offs from the operation of the Cairns brewery:

(1) annual exports to Asia of seedlings from Rainforest Regeneration Inc, which have topped the \$50 million mark; and

(2) the Reef Revivers Project, which has concluded restoration of the Great Barrier Reef — a complete success — and is soon setting off to stop the bleaching of coral reefs in Hawaii.

Despite all the achievements of Eco Beer to date, all its profits, all its awards for contributions to sustainability and social equity, Zach Reinhardt has never forgotten his original pledge — to 'have fun'. From noon to midnight on Melbourne Cup day, 2015, Eco Beer will be available free throughout the country (limit of two dozen per adult).

State of the environment and business — 1999

Emerging awareness

At the end of the 20th century, Australia as a nation was recognising that it was a part of the global ecosystem and an increasingly integrated global economy.

The realisation that the economy was an integral and uncertain part of that ecosystem was incorporated in the rhetoric of leaders, but far less in the decisions made about business or the environment.

While there was general acknowledgment that the then current piecemeal and compartmentalised approach to addressing environmental problems was not working, there was little indication of initiatives based on more systemic analysis.

In particular, awareness of the health of the environment had increased dramatically in the last decade of the 20th century. No one at the time seemed to realise how this level of awareness was a two-edged sword. All sections of the community readily accepted the need for national and international environmental standards. Environmental management was growing rapidly as a profession and practice but with only a minimal interface with business.

Emerging intentions

Australia expressed a strong commitment to Agenda 21, a program for sustainable development adopted by 178 governments at the 1992 UN Conference on Environment and Development. Australia also participated in the drafting of the Kyoto Agreement for the management of greenhouse gas emissions. Immediately after the ratification of the Agreement, the Australian Government established a Greenhouse Gas Office to advise government, business and community on policies and actions required to meet the terms of the Agreement.

Emerging crisis

Because of its geological history and its long isolation as a continent away from other landmasses, Australia has a natural environment that is fragile, unique and attractive — all factors of particular interest and concern to business.

Agriculture had both flourished and failed, blessed and cursed by a flat, eroded, generally dry landscape, and a highly variable climate, especially with regard to rainfall. The triumphs and traumas of more than 200 years of European-style farming had scarred and changed the environment. The excesses of economic exploitation of farms, forests and mines were everlasting testimonies to the unexpected and irreversible change generated by such human behaviour.

Tourism had emerged as the economic boom industry, with the environment offering an abundant array of riches, as it had for agriculture in the early 19th century. However, the seeds of its own destruction were planted within the pressure that tourists placed on the fragile environment. Business opportunities and success hung by a fine thread of competent and responsible management of the resource — an environment Australians could view with pride. Some of these responsible actions had emerged by 1999, like increased use of renewable energy such as solar and recycling schemes in major urban centres, the expanding Landcare program, World Heritage areas listed and prompt action to phase out ozone-depleting substances such as CFCs.

However, other actions — like the short term economic objective of reducing the price of power — drove reforms of the electricity industry. With this goal, energy use pollution and greenhouse gas emissions were always rising and there was an absence of measures to combat the threats to biodiversity. There was no concerted effort to redirect the pattern of energy consumption in a sustainable direction and some government agencies still saw their primary role as promoting economic development with little regard to

Green is Gold — timeline

Year	Event
2000	Price of energy driven down by competition Demand for electricity exceeds supply capacity
2001	Significant increase in 'greenhouse' emissions across industries Transfer of energy generation from coal to gas accelerates
2002	Australian Government introduces a carbon tax Increase in electricity generation innovation
2003	Australian energy prices reach international parity
2004	Air quality in Sydney declines to a point under minimum WHO standards Electric vehicles are supported by some government and corporate groups for their fleet needs Selective Electronic Road Pricing Scheme significantly reduces the use of fossil fuels in vehicles
2005	Carbon tax revoked Gas becomes the preferred fuel for all energy requirements but is only available for 20 per cent of the market
2006	Formation of United Nations Environment Security Council and World Energy Organisation Australia's mineral processing industry almost totally moved off-shore
2007	Environmental Coalition (political party) established to contest 2008 federal election Riots in all major population centres as public protests over government's failure to arrest environmental degradation Major increase in expenditure on new mass transport systems
2008	Environmental Coalition wins government R&D in biotechnology application to environmental management significantly increases as prices on fossil fuels make alternatives commercially viable
2009	35 per cent of energy generation is from natural gas operations Bangalore Treaty signed to enforce 1997 Kyoto Agreement
2010	Energy prices stabilise 25 per cent above 2003 rates
2011	Environmental Coalition retains power in federal election
2012	Electric vehicles make up the majority of new car sales and become the dominant mode in the transport system
2013	A survey of Australian commercial enterprises shows that those with a long term commitment to implementing environmentally safe technologies achieve better and more consistent bottom line results
2014	Australian leads the world in the percentage of its business enterprises that have achieved international environmental accreditation from the Environment Security Council
2015	Pilot projects for the commercial use of hydrogen as the basis for energy production are instigated with the expectation of its wide introduction within five years

environmental costs. Australia was falling short of its greenhouse gas emission reduction targets. In the early part of the 21st century, energy related carbon dioxide emissions in Australia grew much faster than the OECD average.

Australia did not have an integrated systems based approach to the management of its environment, in spite of numerous expert committees calling for such an initiative. Environmental management was characterised by ad hoc responses to urgent emerging problems.

Overall, economic planning took very little account of environmental impacts. At that time, it was assumed that the first priority should be a healthy economy, and that any problems created could always be solved using the wealth generated.

Emerging community and business response

Interest groups with a single focus on environmental issues were rapidly expanding their membership and could count their supporters in every facet of Australian life. However, there was little cohesion between the various groups, who also continued a fragmented approach to issue resolution. Public opinion polls in 1999 were pointing to the general support of at least 70 per cent of the population for environmental objectives. Thus claims by these environmental groups were given a high level of credibility and were starting to noticeably shape public opinion.

Throughout the 1990s an increasing number of Australian businesses, from textiles and fashion through to building and energy generation, recognised the potential of establishing a 'green face' towards consumers. A few recognised the likelihood that many new products and services would emerge out of the changing philosophy around the world, that it was important to protect the environment, and that polluters should pay heavily for the damage they caused.

The 1997 Kyoto Agreement

The Australian Government argued hard and long to achieve a benchmark of 108 per cent of the 1990 level of greenhouse gas emissions within the Kyoto Agreement. While there were bucket loads of logical economic reasons for this position, it was generally depicted in the Australian and international press as being against the spirit of the Agreement. The intuition of many Australians was that they would pay for this concession in the future.

Other Australians, whose awareness of environmental issues was just being awakened, were more impressed by the doomsday arguments about the ozone hole and climate changes than by the intrinsic economic arguments. The hip pocket argument does not win out against a life and death one.

Some Australian leaders and editorial writers expressed their level of unease about the Agreement, not because of its objectives, but because of its complexity and the fact that no government was showing any evidence of a political will to move unilaterally towards its objectives. The Agreement required a fundamental reshaping of business goals and ethics, of governments' policies and fiscal management, and of consumer preferences and behaviour.

In other words, the Agreement required a fundamental change in the mindset of the global community. Such a change was unlikely to be uniform and hence the prospect of serious misunderstanding and conflict was apparent to some commentators.

For Australian business, this emerging level of uncertainty became a critical factor in their strategic thinking for the opening decades of the 21st century.

Systemic perspective of change drivers

Six drivers of change in environmental related activities can be identified as contributing to the turbulent period in Australia in the first few years of the 21st century, and which led to the establishment of the 'green' led economic growth period now being enjoyed in 2015. These factors are considered to have been significant contributors to the uncertainty of the environment's impact on business interests and outcomes that were inadequately planned for at the close of the last century.

Five of the drivers were:

- (1) cost of energy;
- (2) change from coal to gas to renewable resources for energy generation;
- (3) rate of new technology adoption, particularly biotechnologies;
- (4) government intervention to shape market and community outcomes; and
- (5) influence and tactics of environment non-government organisations (NGOs).

These drivers, when networked with the external, politically generated forces on Australia related to the Kyoto Agreement, created another highly volatile driver:

- (6) the Australian people's fear that their environment was not sustainable.

Table 1 on page 102 illustrates the pathway of these drivers through the period 1999-2015. The table identifies the rise in consumer fear and insecurity generated when the impact of these separate drivers are looked at together. The consequences described later in this paper are less surprising in hindsight and from this systemic perspective.

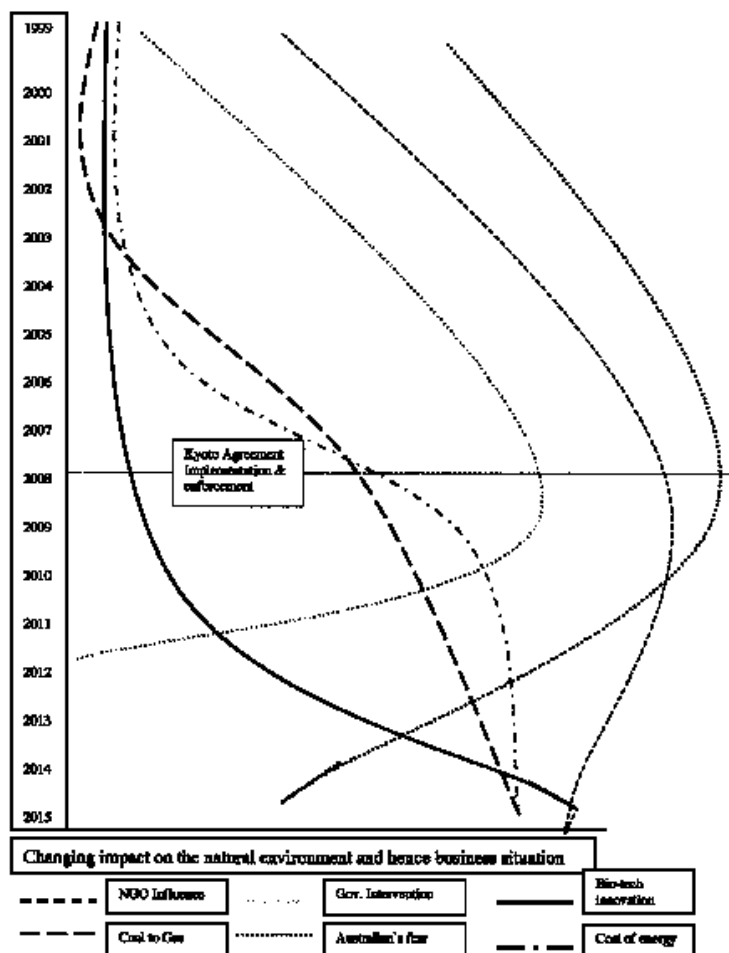
Two distortions

Each of the drivers was distorted from any trend analysis by at least two issues. The first distortion was the relationship that developed between the various factors — for example, the power and influence of single agenda NGOs. As with all single agenda forces, resources can be brought to bear and strategic positions adopted against the weakest link of a complex situation. In the case of business and the environment, the weakest link during these 15 years was energy consumers and the attitudes they held about businesses' concern for their environment and the efforts of governments to ensure the future quality of their life — or even survival itself.

A second distorting issue was the uncertain outcome and impact of the Kyoto Agreement. Since the Kyoto Agreement was and is a political phenomenon, it can be assumed that some governments gambled on various outcomes as they positioned themselves in relation to their perception of winners and losers. Some gambling was being fuelled by a range of other international and national interests — not the least of these factors being domestic party political continuance in places such as US and Japan.

Table 1

Projection of issues likely to effect the impact of environmental decisions associated with Australian business 1999-2015



Environmental technology and values: a 15 year struggle for balance

The direction of the consumer expectations that led to the development of fear when these expectations were threatened by business activity, government inactivity and media sensationalism, are illustrated in the matrix proposed by Tibbs (1999)¹ — see Table 2 on page 103.

The first three drivers listed above are forces associated with the horizontal axis — technology — while the other three drivers represent forces shaped by values.

As Tibbs explained back in 1999:

Technology (environmentally sustainable) is advancing rapidly and will provide crucial new capabilities, but more powerful technology applied in existing ways will only amplify today's problems (bottom right quadrant of matrix). Equally mere restraint (for example less 'developing world' energy generation) in the use of today's

¹ Tibbs H 'Global scenarios for the millennium' in *Company Director* Vol 15 No 1, 1999, pp 18-21.

Table 2

Projection of drivers that impacted on environmental decisions of Australian business 1999-2015

VALUES	New	Sustainable use of current technology	Sustainable use of new technology
	Existing	Unsustainable use of current technology	Unsustainable use of new technology
		Existing	New
		TECHNOLOGY	

technology will mean unnecessary austerity (top left). Today's level of end-use benefit can be provided safely by creating low impact designs that incorporate advanced technologies (top right). The path of development in any optimistic scenario combines new technological ability and new environmental — and people — centred design values to achieve a sustainable post-physical-growth economy.²

Very few commentators in 2015 will find fault with this line of argument. The difficulty for Australian business in 1999 lay in the complexity of this apparently straightforward two dimensional matrix. The package of drivers for the two axes illustrates the uncertainty of outcomes facing Australian business in 1999. The critical importance of every enterprise continually testing the robustness of its strategic position, in terms of its capacity to respond to the issues that emerged from the relationship between the drivers, is obvious in hindsight.

The nation experienced a period of mounting anxiety in all sections of the community leading up to the implementation of the Kyoto Agreement. The level of anxiety and conflict across the nation's social fabric towards the end of 2007 was far more turbulent than anticipated. The political forces for a 'green' coalition government overwhelmed the 'dry' economic powers in the later years of the decade. This political change, which came out of unprecedented unrest, required significant adjustment by businesses in their use of energy and promoted accelerated achievement in environmentally sustainable technologies. Businesses that were able to make the changes achieved an ever widening market for their

² Above note 1.

environmental management knowledge, skills and products, and are now among Australia's most successful international corporations. Further, those enterprises which led the implementation of the emerging values in the turbulent times have both acquired iconic status in Australia and have seen their contributions gain endorsement and praise from international environmental NGOs and UN leaders.

The six drivers outlined above, and their significant impact on people's perception of their future and Australian business over the last 15 years and are represented graphically in *Table 1* and discussed in the next section of this paper. Also discussed is the cumulative impact of the factors on Australia's people, less apparent in 1999 but painfully obvious in hindsight. The citizenry eventually responded — with dramatic impacts on government, business and community organisations across the country.

Selected drivers

Cost of energy

Rampant competition

At the end of the 20th century some states of Australia had moved to privatise ownership of their electricity generation, coal resources and distribution networks, while others had either corporatised the utilities or kept them under direct government management. The national market for electricity had been established and in some people's perception was proving very successful, as the spot price of electricity was driven down by competition.

A closer analysis of the situation at that time revealed that electricity was being 'dumped' at unsustainable prices as the various enterprises sought to drive the opposition out of the marketplace. At one stage electricity that cost between \$35 and \$40 to generate was being sold for as little as \$10 per megawatt hour.

As a result of this struggle to survive, generators sought to cut corners and one of the first areas to suffer was greenhouse gas emission control and monitoring. By early 2001 the Environment Protection Agency had charges in the courts against all major producers.

Another consequence of this pricing war was the concerted effort by industry to grow the market through greater consumption. This was achieved through support of energy intensive processes that would have earlier been considered non-viable.

A third issue that arose was the changed relationship between supply and demand within the industry. The price war originated because of the significant amount of over-capacity in most generating enterprises. However, the success of the dumping had the effect of narrowing the gap between demand and supply capacity — hence on many occasions, through unexpected climatic events, demand significantly exceeded supply and 'brown-outs' occurred. This uncertainty, creeping into a previously very reliable supply network, contributed to an increasing lack of confidence in the industry. Further, the recently privatised enterprises were perceived by the majority of Australians as causing this state of affairs. Some commentators described the situation in 2001 as a new form of colonialism being imposed by multinational companies in the energy field.

The already existing distortions between the cost of energy in Australia and the rest of the world became further distorted and made it easy for other nations seeking to find fault in Australia's submissions to the Kyoto Agreement to attack the abuses of energy and excessive generation in Australia.

Carbon tax

A change in government saw the introduction of a carbon tax, based on the argument that the market was perpetuating unsustainable practices in the name of competition, and that Australia was suffering internationally from this behaviour.

Between 2002 and 2004 the price of energy was progressively raised to international parity. During this period the need for the carbon tax was reviewed, as the global market in 'emissions trading' gained momentum. The carbon tax was phased out in early 2005.

However, much damage had already been done to the credibility of the industry by the extent to which environmental values had been ignored in the name of competition. Industries that had seized the opportunity to build their business around cheap energy now found themselves in some financial difficulty. There was little sympathy in the community for these enterprises.

Industry reform

By 2004 more extensive concerns about energy generation's impact on the environment had surfaced and the strong push to introduce alternatives to coal had gained momentum. The priority given by the public to environmental values created a situation where energy prices could rise without a lot of voter discontent (although business lobbied governments continually to rein in the increases). As a result, the price of electricity continued to rise until 2008. By this time a host of other generating technologies had been made viable, and the price of electricity stabilised until 2012. The advent of a second generation of alternative energy sources significantly reduced the cost of energy to the end user in the last three years.

Changing from coal to gas and to other resources for energy generation to meet the Kyoto Agreement targets and Australians' environment protection values

Transformation

The first couple of years of the change in Australia from primarily coal fuelled generation of electric energy were times of 'stop-go' programs. Coal miners and electrical unions stalled the process through industrial disputation, and employees fought with governments and employers to gain compensation for the job losses associated with diminishing coal driven electricity generation. Many Australians voiced their fear that the nation was withdrawing too much of its valuable natural resources from the market. Large multinational energy producing corporations in Victoria challenged any government interference that impacted on the long term decisions they had made on brown coal costs and availability.

One of the tactics used by the government to gain public support for the changeover from coal to gas was media material akin to the Grim Reaper campaign on AIDS dangers. As a result, public sensitivity and concern about all forms of atmospheric pollution were aroused.

Between 2002 and 2009 the changeover program gained momentum, so that by the end of the first decade 35 per cent of the energy generation formerly derived from coal was being performed by gas fired turbines. In some instances, the change would have been quicker and more extensive but for the delays in negotiating pipelines across native title and private freehold land, which took much longer than expected. The development of new waterside infrastructure enabled efficient transportation of gas from the North-West shelf to supply Eastern seaboard generators.

Pricing

Prices for both business and domestic electricity were pushed up during the transfer period (as discussed above) to bring energy costs more into alignment with other OECD countries; this meant over a 50 per cent increase in costs to some consumers. The most disadvantaged were businesses that had been established in Australia because of the low cost of reliable electricity. This particularly applied to mineral processing activities. By 2005 most of these enterprises had moved offshore.

Discontent

The workers who lost their employment remained a militant group throughout the last 15 years and are still a cause of concern to authorities, contributing significantly to protests on many issues. These conflicts were intensified by the concern of all Australians about their future living environment. The conflicts themselves then led to a further loss of security and sense of wellbeing. Together these experiences created a destructive spiral of loss of trust in governments and other public authorities.

The transfer to gas gave both the utility corporations and the government an excellent chance to argue the contribution they were making to greenhouse emission targets. However, the lack of trust of the community in its leaders diminished the impact of these messages. Nevertheless, in spite of the cost to business and cynicism of the populace, real gains were made towards achieving Australia's commitment to the Kyoto Agreement.

Transport energy

Natural gas, which burns more cleanly than oil, was being used wherever possible. As environmental values intervened in all consumer and technological choices involving energy, gas became the preferred fuel by 2005. Even transportation, the one market that had not gone electric by the turn of the century, was affected by 2004, with the industry finally producing electric vehicles.

The energy system associated with transportation had been relatively stable for the last half of the 20th century — with the exception of 1973-1986, when OPEC managed to hold the world to ransom and raise oil prices. After that interruption it was back to global market economics, and cheap oil continued through to 2003. But several big changes in energy then started to have effect. The move away from fossil fuel towards hydrogen and the advent of the fuel cell era got under way even while the move to clean fossil fuel (natural gas) was still gaining momentum. The announcement by vehicle manufacturers in 2004 of the birth of the electric vehicle meant the beginning of the end of the internal combustion engine as a dominant form of transportation. In addition, the Australian Government's intention to introduce high disincentives to existing internal combustion car users sent further waves of disruption through Australia's social fabric. The adoption of electricity, fuel cells and hydrogen has led a technological revolution in transportation over the last 10 years and contributed to a social revolution.

Renewable and nuclear options

Since 2005 we have witnessed a range of new technologies, from smart gas turbines to fuel cells. Fuel cells provide industry with the ability to convert a variety of fuels to electricity, producing only hydrogen and water as by-products. A Korean energy technology manufacturer has stated that in the next year or so they will have fuel cell cars and stationary fuel cells for houses and office buildings. It appears that the long hoped for hydrogen economy will take off before 2020, bringing new environmental gains to the planet.

Two of the big names from the dirty fossil fuel era, BP and Texaco, have made big advances with their investments into solar research, which they started in the mid-1990s as they realised the diminishing value of the vast oil reserves they controlled. The price point of energy from solar sources is starting to make it a viable option for areas where the transportation of gas is a significant issue. These two corporations, which we take for granted today in the electricity market, between them control 60 per cent of the world's solar energy production.

Nuclear energy, as everyone will realise, continues to operate on the edge of public acceptability. The closing down of some 40 generation reactors and the enormous difficulties encountered, including the disaster in northern England in 2005, highlighted the long term dangers to society from this form of electrical generation. The world still awaits a 'cold fusion' process that will revolutionise everything in this field.

New technology adoption — particularly biotechnologies

Promises before 2008

All four waves of technology coursing through these last few years — computers, telecom, biotech, and the emerging nanotech — have contributed to a surge of economic activity in Australia. Unlike the 'industrial age' technologies, biotech does not operate at very high temperatures — instead, it emulates the processes of nature, creating much less pollution. Hence, from a technological perspective, the mass hysteria of 2008 over pollution has now largely been allayed. However, the relationship between technological initiatives and consumers' sense of security is still an area of great uncertainty.

As analysts attempt to review what happened in the first decade of the century, they often come back to the promises governments and business made that new technology would solve many of the 20th century's environmental problems. Most of these claims were inflated as innovators, researchers and associated enterprises argued for subsidies from government to enable them to commercialise their products. These promises of new technologies, especially biotechnology, therefore not only inflated expectations, but reinforced the notion in the community that the environment was facing imminent collapse and chaos.

After 2008

As it turned out, by late 2008 the relative pricing of energy in Australia reached a point where alternative technologies were viable, and over the next seven years a prolific number of products appeared, tackling all kinds of environmental issues. While few products have lived up to the expectations generated for them earlier, the overall impact has revolutionised the way in which the environment is treated. The community's confidence in the sustainability of life on the planet has returned.

The readiness of the Green Coalition Government elected in 2008 to create incentives and subsidies for the introduction of new environmentally sensitive technologies meant a huge shift of research and development and venture capital into this field. The results are reflected in the exponential growth in commercial bio-tech products. The new technologies are today leading a new sense of hope and enthusiasm about Australia's future.

Whether mopping up industrial waste through bio-remediation or trying to sell clean burning bio-fuels, environmental biotechnology has often been regarded as the poor cousin of medical biotechnology. This was exacerbated, before 2008, by a lack of resources, a paucity of manpower and, perhaps, a poor focus on economically viable solutions to environmental problems. But new environmental technologies, previously only being adopted if they benefited a company's bottom line, are now mandated by law.

The advances in plant genetics and enzyme engineering, along with a trend toward interdisciplinary projects in which molecular biologists teamed up with synthetic chemists, helped to move environmental biotechnology out of the waste lagoon and into the production pipeline. Since the injection of extra investment funds in 2008, the claims by proponents of bio-manufacturing that industries will use less energy and become more environmentally friendly, while still turning a healthy profit, have been substantiated.

Business of technological innovation

The stuttering experiments being carried on with minimal resources in Australia back in the 1990s may have been commercialised well before 2008 if more capital had been invested in them. The lag time between promises and any significant contribution to environmental management continually disappointed, adding to the non-sustainability fears held by many Australians at the time. An example of this situation was ForBio (Brisbane), which was combining robotic plant culture systems and sensitive assays with traditional genetics to breed eucalyptus trees that show increased resistance to saline environments. The aim of the work was to produce trees that can grow on otherwise non-productive land and then be processed into paper, generating revenue from wasteland. The struggle for venture capital saw many such initiatives fade away.

An important breakthrough achieved by the intensive investment since 2008 is that, in addition to cleaning up industries that already relied on biological raw materials, biotechnology has provided renewable alternatives to traditional petrochemicals.

A chemist at DuPont Central Research and Development laboratories in Nowra has reported that the polymers the company had developed were now being produced at prices that would have been competitive with petrochemicals under the old situation (of low petroleum prices). 'I also believe we could have achieved this years ago with a higher level of R&D, but that wasn't company policy in those days,' he said.

Gene technology and values

There was another side to scientific work that added to Australians' fears about the future. The rapid developments in gene therapy and transfer, for example, demanded higher levels of ethical understanding than had been achieved at the turn of the century. There was serious talk of humankind being 'in over its (collective) head', and of the need to place a moratorium on the generation of further medico-scientific knowledge until such time as appropriate standards of ethical behaviour had been established. Instances of the misuse of genes were headline stories week after week in this century's early years. Eventually, during the green upheaval society, which had always operated on the principle that knowledge is good and more knowledge is better, demanded that scientists call a halt to their research.

Increasing environmental paranoia in Australia

To understand the paranoia that afflicted many Australians about their future survival between 2003 and 2008 and contributed to the civil disturbances, it is necessary to realise that the dominant culture could not accommodate the claims of scientists about the 'brave new world' they were constructing. Comments like the following abstract from the GBN publication *Imprint* by Peter Schwartz and Glen Weber typified the media messages that confronted people:

Until recently, biology has been an empirical science — test it and see if it works. To figure out a chemical cure for disease, scientists had to apply possible cures to the diseased organisms — first Chemical A, then Chemical B, then Chemical C, etc until something worked. But, in the next two decades biotechnology will experience huge advances, both in molecular biology and kinetics. Our understanding of physical and chemical laws has evolved to the point where we can predict what will happen when two chemicals interact or what a metal will do when we heat it. And we're rapidly learning how to read genes and understand and manipulate genetic systems at the molecular level, making biology more rational. (Companies like Monsanto are reorganising

themselves now that they can manage and control biological systems in a way they never have before.) We're going to be able to build more and more devices that are essentially electronic analogs of organic systems. One example of our advances is the neural implant created by the Defense Advanced Research Project Agency (DARPA) and originally intended as a neuro-prosthesis for wounded soldiers. The implant comprises analog chips integrated in an optical medium that can be implanted in the brain.

We're also going to see common diseases like cancer and heart disease cured and witness the continued development of life-enhancing drugs. Viagra is one of the first of these drugs, but there will be medications for improving vision, skin tone, memory and the like, and our lifespan will be extended to 120 or 150 years. Within 20 years, we may be genetically 'designing' our children. The biology for these advances is already in the pipeline, ready to come to market within the next two decades — and sure to effect a huge change in our lives.

The biological revolution will also have industrial and environmental implications. Industry is beginning to learn how to engineer solutions the way nature does. Nature operates at low temperatures, not high temperatures, and the result is very low pollution and low energy consumption. If we were capable of constructing a building the way nature builds a tree, we would use much less material and much less energy. We're beginning to learn how to design our industrial processes like natural processes, and, what we're likely to see is a huge reduction in the environmental consequences of industrial activity. The result could be an enormous expansion of the economy without destruction of the environment.³

While none of these comments seem unusual today, as all these expectations are now taken for granted, we need to remember that much of it didn't come about until 2010. That was when the use of breakthrough alternative energy sources were required by law. So the frustration of waiting 10 years built up a little more each day, creating a timebomb.

The following extract from Wendy Yap and David Rejeski, clearly articulates the grounds for mass fear of the rampant multinational financed scientific research:

Much environmental regulation protects human health through a long series of assumptions, calculations, and extrapolations that make the regulatory process slow, inexact, and contentious. Gene chip technology could turn that system on its head, by making it possible to observe the actual loss of genetic function and predict susceptibility to biological changes induced by a chemical. As the cost of the technology decreases, it will be possible to do this for many people, and ultimately to screen large populations. 'The focus of environmental management will shift from monitoring the external environment to looking at how external exposures translate into diseases at a molecular level.' This could radically change the way we approach environmental risk assessment, open up whole new avenues for prevention and early intervention, and allow custom-designed individual strategies to reduce or avoid a person's exposure to environmental threats. Some speculative concerns for policy: 1) cheap testing and intervention capacity could be used by insurance companies to deny coverage; 2) individual acquisition of genetic evidence could support many

3 Schwartz P and Weber G *Imprint* abstract, GBN publications.

lawsuits for environmental exposures (the risk of toxic tort litigation in the past 25 years has closely paralleled the scientific ability to show proximate causation); 3) expanded use of gene chips for medical surveillance in the workplace increases the possibilities for discrimination; 4) the need to continuously assess at-risk individuals and environmental threats could result in a demand for microlevel monitors for household and personal use, and far greater scrutiny of the 2000+ chemicals registered annually by the EPA (more than 60 per cent with inadequate human toxicity data). This is clearly a situation where rapid sci/tech advance could outrun our institutional capacities and test our moral fabric.⁴

So while today new technologies are welcomed and are a crucial part of an ever improving standard of life for Australians, only 10 or 15 years ago they were seen as a threat to life continuing. They were a part of the growing fear and a contributor to the loss of confidence in authority — people could not separate fact from fantasy as corporations tried to curry favour by emphasising fantasy over the current facts.

Government intervention

Endeavours of a frustrated leadership

Government intervention in the management of the environment rose steadily after 1999 as the then Federal Government Environment Minister became aware of the increasing influence of NGOs on the attitudes of Australians to environmental abuse. However, the saga of government intervention was always one or two steps behind the escalating outrage being displayed about environmental abuse.

Right through until the riots of summer 2008 government was always reacting, never taking the lead, and probably never appreciating the extent of the accumulating anger and frustration in the citizenry.

The initial interventions of government were in traditional areas of environmental land management. Degraded land rehabilitation programs received the majority of the money committed from the National Heritage Trust in the first five years of the century. These programs made an immediate impact on people's expectations of what could be achieved, but the failure of program managers to mediate between conflicting and mutually exclusive land users (agriforestry, cropping, grazing, intensive horticulture, recreation and conservation) locked billions of dollars in the courts for much of this period. Again the expectation never became a reality and unfulfilled promises were the fuel of revolutions.

Recycling

Some progress was made in Australia's once appalling record for recycling waste. In 2001 the Federal Government introduced major incentives, both for local authorities and private companies, to establish comprehensive recycling systems. The target of recycling 85 per cent of household and industrial waste by the end of 2006 looked achievable — that would have been 10 times the level in the 1990s. However, again the inability of governments at the time to change entrenched behaviours in industry groups saw this program fall well short of its targets. It wasn't until 2012 that the target was reached, by which time the Green Coalition Government had introduced severe penalties to go with the incentives.

Recycling, more than anything else, gave members of the community a sense they were doing something to tackle the life threatening deterioration of the environment. Huge turnouts at Clean Up Australia events (seven and a half million participated in 2003) saw the Federal Government investing millions of dollars in the project. While achieving incremental gains in rehabilitation of the environment, the events also revealed to the millions of participants the horrific extent of Australia's pollution. For government and supporting business groups it was a case of one step forward and five steps backwards in the quest to win the population's trust.

4 Yap W and Rejeski D 15(1) *Issues in Science and Technology*, 33-36.

Transportation

The Australian Government moved in 2004 to copy the British campaign to cut road journeys without damaging economic growth through the Selective Electronic Road Pricing Scheme. The abolition of car tax for the new generation of clean vehicles from 2004 and the huge hike in petrol duties helped the program make its mark. Together with tough emission targets and tax relief for those working at home or using public transport to go to work, these measures slowed the growth in pollution-high traffic, but the threatened gridlock of Melbourne and Sydney could not be avoided. It's doubtful that anyone who experienced the traffic at the time of the 2000 Olympics would have believed that in only a few years those horrific days would seem like good days for our cities. Nor could the growth of breathing disorders in young children be stopped and the stories of suffocated children continued to shame the nation, featuring on the front pages of both the new 'net' publications and the traditional tabloids.

In 2007, desperate governments increased spending on public transport, but it was too little too late to release the discontent valve in Australia. While there was at the time no dramatic shift away from the car, this expenditure did however establish an infrastructure that enabled the population to maintain a degree of mobility when cars were finally banned from all CBDs in 2008. One of the consequences of the vehicle emissions disputes was that the bicycle underwent a major revival.

Environmental Health Council

In 2004 the Federal Government, in partnership with environmental scientists and the private sector, established an Environmental Health Council with the power to impose taxes or fees for the most environmentally damaging activities. This idea was generally supported and certainly seemed like a sincere effort by authorities to move aggressively against any form of pollution. However, the first report of the Council to Parliament in 2005 again demonstrated the incapacity of Australia to establish any meaningful dialogue about the environment — in this case, to establish strategic conversation between those with an ethical stance on meeting perceived shareholder profit expectations and those who believed the long term health of the environment was more important than any other value in society.

Basically the Council could only agree on small phased in penalties; they argued that it was dangerous to the economy to introduce harsh penalties without giving manufacturers and other industrial polluters time to respond. One Australian paper claimed the decision was akin to 'allowing murderers to keep murdering until they could find another more acceptable pastime'.

Environmental protection action in global community forums

While the Australian Government was struggling to find a legislative position acceptable to business and the community, the UN General Assembly established an Environmental Security Council, as a parallel organisation to the UN Security Council, to deal with regional disputes being generated by the Kyoto Agreement. The UN also created the World Energy Organisation for the co-ordination of research and assistance in the implementation of policies associated with Kyoto. The IMF and World Banks moved to incorporate a range of environmental management conditions within loan agreements. However,

to Australian citizens this all appeared very remote. Nothing changed in their street, except that the smog alerts became more frequent and weather patterns became more extreme than anyone had previously experienced.

Because environmental consciousness was not pervasive and was unevenly accepted in Australia, its impact on politics was grounds for significant conflicts. The efforts by governments to intervene, therefore, always alienated some section of the community and contributed to the general outrage about the lack of leadership in creating a safe, productive environment.

Political reflections

The recently elected leader of the Australian Labor Party, in his opening address to the Party's 2015 Policy Conference, reflected on the disastrous fears people held for the future between 2006 and 2010. He specifically recalled the writings of his colleague Mark Latham, who originally wrote the following in 1998:

I believe the Australian electorate is ready for this approach. It has grown sceptical of the elaborate tricks of machine politics and modern campaigning — slick advertising, spin doctoring, stage-managed events, intensive opinion polling, marginal seat manipulation and the buying off of sectional interests. The new politics needs to discard the techniques of coalition-building and rhetorical positioning. It needs to deal much more in solutions than images, even if this means abandoning the conventional wisdom and promoting radical policies.

The new politics will need to define a fourth head of power — those issues and outcomes determined directly by the people. The health of our democracy now depends on the growth and success of direct democracy.

'Perhaps, if we had all taken the role of community leadership more seriously in the late '90s, or even just before 2008, we could have installed a process that would have steered Australia more harmoniously through its environmental crisis.'

In the same speech he drew attention to the inadequacy of good intentions in the political arena if they are not backed up by 'good works' by quoting the words from 1999 of the then Prime Minister, John Howard, speaking at a Futures Conference organised by *The Australian* newspaper:

Our purpose is to build a new social coalition of government, business, charitable and welfare organisations and other community groups — each contributing their own expertise and resources in order to tackle more effectively the social problems that directly or indirectly affect all members of our society.

Our purpose is to help build an Australia, which is a global leader in economic achievement, innovation and new technologies. It is also to strengthen the tolerance, fairness, optimism and sense of common purpose that has always characterised Australian society.⁵

These goals are within our grasp. They will only be achieved through realism, competitiveness, boldness and a keen sense of Australian values.

Governments, business groups and the wider community need to recognise that these procedures of globalisation can be disconcerting and unsettling for individuals who are adversely affected by the changes they inevitably cause. Such Australians can feel left behind, resentful and envious.

The Labor leader concluded, 'Why didn't we take that last sentence seriously? Why did it take extreme civil disorder before the depth and breath of public resentment was responded to?'

5 Keynote address to the 'Nation Building: The Social Imperative' conference, Melbourne 4-5 May 1999.

Influence and tactics of environment NGOs

NGOs — 'no-go' for development

There are two distinct views about the role NGOs have played over the last 30 years in the war for better world environmental care and management. One point of view was articulated by David Robertson in *The Pelham Papers* No 5 in 1999. Although not specifically discussing environmental NGOs, the comment represented the attitude of many people in government, business and academia about NGOs at the end of the 20th century. Robertson wrote:

In my view, the role of NGOs in the Multilateral Agreement on Investment (MAI) story is disturbing. There is a risk that in future other international negotiations, including those in the World Trade Organisation (WTO), may be similarly disrupted by these undisciplined and undemocratic groups.

For the first time an official initiative to formalise international economic co-operation was defeated, in part, by a loose coalition of social lobby groups, claiming to speak 'for the people'.

The ramifications of this successful attack on the MAI do not seem yet to have dawned on governments or the public. The media continue to promote 'civil society' as a popular restraint on governments and 'globalisation'. It is always a good news story! In some official circles too, 'civil society' seems to be regarded as a force to be harnessed for the general good. These NGOs align with single issues, many of which conflict. For example, human rights tend to improve as a result of better national living standards, yet environmental groups rail against both economic growth and plant research directed to raising crop yields.

Ultimately, NGOs stand for 'no-go'! They aim to block progress in favour of conserving the status quo — protecting national culture, domestic values and jobs, traditional farming, trees over people, etc. The strength of 'civil society' is growing and governments make concessions to it and its composite membership. US and EU leaders have declared in favour of including labour standards and the environment in the new WTO round of multilateral trade negotiations. This may placate 'civil society' and reduce temporarily domestic political opposition to the WTO, but the objectives of NGOs are not defined and hence can never be satisfied.⁶

NGOs — a focus for the powerless

Also writing in 1999, the editors of *Human Dimensions of Global Change Series*, Cooperrider and Dutton, recorded an alternative perspective. An adaptation of an abstract from their work states:

Today's global forces are moving us into a new set of circumstances in which human social organisations inherited from the industrial era may be unequal to the challenges posed by overpopulation, environmental damage, technology-driven revolutions, gross imbalances between rich and poor, and the onslaught of treatment-resistant diseases.⁷

They stated that single interest groups (NGOs) made up of people from across the

⁶ Robertson D, *The Pelham Papers* No 5, 1999.

⁷ Cooperride and Duttan, *Human Dimensions of Global Change Series*, 1999.

world were needed:

... to create an interdisciplinary domain seeking better understanding of the earth as a total system ... with special emphasis on constructive human response to the global agenda ... (and) a scholarship of transformation.⁸

Such NGOs, they claimed, could make sense of various environmental situations by encouraging

... constructionist leadership, global, social capital and social learning in intersectoral problem solving, through transnational social movements and global environmental networking of countervailing forces to the aspirations of agents of global sustainability.⁹

Rather than relying on intergovernmental efforts, citizens and environmental groups from across the world created their own networks to campaign for greater responsibility for the environment by business. This 'bottom-up' globalisation was made possible by the same communications technology behind the globalisation of trade, production and finance. These networked groups supported the efforts of millions of concerned citizens and a wide range of organisations, which continued to campaign at the national and local levels for environmental protection.

From eccentrics to counsellors to power brokers

The efforts of NGOs in promoting environmental change and their own version of sustainability is assessed today, in the middle of the 21st century's second decade, as 30 years of transition from a public image of radicals and eccentrics to a position at the centre of public policy. This position was achieved through the early years of the century because society in general came to the conclusion that decision-making forums were dominated and controlled by those who had a direct financial interest in the polluting industries. The scandal of a pharmaceutical company funding members of a national health research body's superannuation scheme, which surfaced in 2006, was an illustration of how this type of issue was a rallying point for NGO led protests.

Those who criticised the 'development at any cost' zeal shown by advocates for polluting technologies found it almost impossible to gain official appreciation of their position, but won the hearts and minds of the majority of Australians through NGOs funded by concerned members of the public. The many disparate movements were welded together as the call for greater environmental care became universal.

A conscience vote on the environment's health and future: a new beginning

Political parties facing large numbers of walk-outs from their own ranks made environmental issues a conscience vote in 2007. Immediately NGOs identified in these conscience stricken politicians a new 'green' coalition for change and this eventually led to the creation of a new power in Australian political life with the formation of the Green Coalition. The election of the Green Coalition Government in 2008 under the leadership of Dr Bob Brown, with a mandate to make a clean environment its core issue, completed the path of environmental NGOs to the position of respect they enjoy today.

A number of other factors (not graphed above) that were the focus of NGOs also contributed to the shaping of Australians' fear about their environment prior to the 2008 protests. Three of these are briefly reviewed here to further illustrate the holistic changes that occurred on the environmental foci system.

Climate

There were three different dynamics at work in the climate debate:

8 Above note 7.

9 Above note 7.

1. Is the science itself plausible?
2. What do people believe?
3. What public policy should result?

It appears there was consensus on the part of the US Intergovernmental Panel on Climate Change in the late 1990s. They believed there was a greenhouse model at work, driven by anthropogenic effects of hydrocarbon use, that was producing global warming over a long and gradual period of time. Their recommendation was to reduce the amount of hydrocarbons released into the atmosphere to help slow that trajectory. This consensus was accepted by most of the industrialised nations of the world, and the Kyoto Agreement was based on that consensus. It may not have been good science and it may not have been what business wanted to believe, but that consensus was driving public opinion and seeding public fear in 2000.

Of course this consensus didn't end the debate, which was driven by questions about the science of climate change and what people believed. How fast was climate change happening? What was at fault? Was it natural or anthropogenic? How do we best manage the risks it presents? Most of the hydrocarbons in the atmosphere in 2000 were put there by the so-called industrialised countries. Through the last 15 years, most of the hydrocarbons have come from the previously poor but industrially emerging countries which couldn't afford the cost of the cleaner technology. The issue of equity of responsibility was part of what prevented the Kyoto Agreement from being extensively ratified by the end of the last millennium. This antagonistic behaviour between governments fostered the rapidly spreading belief that government leaders lived by the motto, 'power today is more important than survival tomorrow'.

Today, 15 years on, there remains much debate about the science of climate change. Experts still disagree about the validity of the models and there are unresolved questions. What if, for example, the main source of climate change is not the hydrocarbons generated by human activity, but solar activity instead? If that is indeed the case, there's not much that can be done. The inability of science to address this issue was perhaps one of the significant sources of insecurity in a global population raised to believe in science's ability to explain everything.

Another wrinkle in the debate then and now is timing. Most of the analysis put forward is about gradual climate change, but studies show that this is rare. The last period of gradual change was where human society developed, but for the preceding quarter of a million years change was highly volatile. Temperatures rose 10 to 20 degrees over a decade or two, not one or two degrees over a century or two. The conclusion that can be drawn is that this period of human civilisation with slow climate change is an historical anomaly. We'll be lucky if it continues; if it doesn't, we're going to return to a climate regime with a high degree of volatility.

William Calvin published an article in the late '90s on climatic whiplash. His work was based on the flow of the oceans' major salt currents — as they move to achieve a chemical balance they take with them great quantities of heat and energy. It's why Northern Europe is relatively warm compared to Southern Alaska at the same latitude, or why Philadelphia and Naples, which also share the same latitude, have completely different climates. If the chemical balance of the oceans changes, there is a significant possibility that the climate could change abruptly; not in 50 years but in five or 10 years, with major climatic

disruptions, as experienced in the period 2002 to 2008. It may have very little to do with human effects, but people believed that corporate behaviour was the cause, and either way it was the beginning of a major political crisis in Australia.

Water

Water has always been an important issue for rural and urban Australian households. Both are frequently affected by water restrictions, especially during the summer months. Hence the cost of water was for all of the last century an area of great social awareness. Australia has also been affected by water quality problems. These have included blue-green algae and salinity in our river systems. By 2008 the Murray Darling Basin groundwater had degraded to a point of being 251 per cent worse than the 1992 NRMS benchmark. The contamination of Sydney's water supply in 1999 highlighted people's dependence on a source of clean drinking water at that time. Since then similar problems have occurred almost annually in all Australian urban centres. Water authorities at the time of the 1999 crisis acknowledged that they could not control the spread of pollution in catchment areas or in some distribution channels.

Most of the successful breakthroughs that occurred prior to this century in agricultural productivity were based on ever more intensive use of irrigation water and chemical inputs. The agriculture based on the intensive use of these inputs was prone to mismanagement that led to environmental degradation.

Some people looked to technology for a solution. Methods to purify salt water had existed for some time; these methods were, however, high in energy use, expensive and often impractical.

The competition between clean water for people and water for agriculture became a critical issue in 2007-8 and a source of political instability and conflict that turned rural and urban interests against each other. The damage inflicted on irrigation infrastructure by self-appointed urban environmental vigilantes and rural groups, retaliation were key factors in the Federal Government's fall and the emergence of a Green Coalition Government for national unity in 2008.

Food

In general, throughout these last turbulent 15 years food supplies have been maintained. It was food politics that contributed to the fear increase being examined here.

For example, a Federal Government policy which allowed farmers to grow genetically modified crops that were toxic to birds, insects and grazing animals was adopted in 1999 without public consultation or fanfare.

The policy became a rallying point throughout the next decade for all groups opposed to genetically modified food. The pictures published in 2002 of thousands of dead birds and animals (with the question 'will people be next?') became an instant indicator of the absence of 'care' in governments and a claim that trusting governments' or multinationals' decisions was akin to mass suicide.

Fear of an unsustainable environment

A movement driven by fear

Larry Elliot, writing in *The Guardian* in 1999, summed up this prospect for political chaos in a column that focused on a then recent UN report:

Yesterday's UN report underlines the picture of a world ever more starkly divided between those for whom globalisation delivers and those for whom it does not.

Little of that vision remains. As the co-ordinator of the report, Richard Jolly, says: 'The world is rushing

headlong into greater integration, driven mostly by a philosophy of market profitability and economic efficiency. We must bring human development and social protection into the equation.'

The problem is one of agency — how do we get from where we are to where we ought to be when those states that have the power lack the will and those that have the will lack the power?

But to do nothing is to accept the lie that globalisation is a force of nature rather than something which is directly affected by decisions made at local, national, and international level. Jubilee 2000 and progressive governments have already shown what can be done on debt. The report usefully suggests a 'bit tax' on data sent through the internet: even a tax of one US cent on every 100 lengthy e-mails would raise more than \$US70 billion a year.

Will any of this happen? Who knows. But if it doesn't, please let's have no hand-wringing or excuses. As Marris says: 'The global destiny of the human race lies in our hands. The situation at the end of the 20th century is not only intolerable but unnecessary.'¹⁰

It is very difficult to identify when a movement for change starts to gain significant momentum. In the late 1990s various doomsday scenarios were written, and each had a small number of adherents. Generally these groups were small (although sometimes very noisy) but they never came together to create a critical mass of concern. Then came Dr Peter Gleick's book on water. The following extract from Polly Ghazi's *Canberra Times* review explains the essence of the book:

The year is 2017. Winter riots are breaking out in United States and European capitals in protest at rocketing prices for food and water. In Africa and Asia, millions are dying of famine.

The global crisis has been brought on by six years of drought in North America, China and India, exacerbated by the bombing of dams across the Middle East.

Western governments are panicked into action. They finally start to reform the inefficient and inadequate food and water policies of the previous half century ... Are these the apocalyptic imaginings of a fringe environmental group? Far from it.

This is the near future as imagined by Dr Peter Gleick, one of the world's leading water scientists, in a landmark new report.

'It is not a firm prediction, but it's what I believe may happen if we keep heading in the same unsustainable direction we are now,' says the director of the Pacific Institute for Studies in Development, Environment and Security in Oakland, California.

'Water shortages and conflicts are almost certainly going to get worse before they get better.'

Gleick's book, *The World's Water: The Biennial Report on Freshwater Resources 1998-99*,

¹⁰ Elliot L *The Guardian* 1999.

which draws on the work of many international experts, provides the most comprehensive overview to date of the state of the globe's freshwater resources.

Clearly written for a non-specialist audience, it does not make pretty reading. Here are some key facts:

Half the world's people lack basic sanitation services, while more than a billion lack drinkable water — and in much of the developing world these numbers are rising.

At the same time, the amount of water available per person is falling, while demand is growing — fuelled by rising living standards and population growth. Water-related diseases still affect hundreds of millions in Africa and Asia; some, such as cholera, are on the rise.

More than 700 species of freshwater fish are threatened or endangered.

Water tables are being unsustainably drained in every continent except Antarctica.

'At the moment, we are clearly falling behind in our efforts to achieve equitable and sustainable use of water because the population of the developing world is expanding far faster than we can put new water programs into place,' Gleick says.

'We already have a situation where half the world doesn't have a sanitation system equal to ancient Rome.'¹¹

Diverse elements of the fear increase start to meld

Gleick's book touched a responsive nerve in millions of Australians. Perhaps it was the focus on water, but whatever it was, the moment has been pinpointed by social scientists as the point in time when the disparate environmental groups and concerned citizens started to meld together. By 2007 this melding of human energies had created the largest single action group in Australia's history, dwarfing the anti-Vietnam movement of the 1960s. Further, many have recently argued that you cannot consider that movement of people a single interest group, since their perception of reality at the time was 'everything I know comes down to the survival of my physical environment; for me that is everything'.

To get an understanding of how fragile the average Australian's psyche was at the turn of the century you only have to look at the type of messages that were bombarding people from every aspect of the media.

Degradation of the natural environment — There is now widespread acknowledgment that survival on earth is seriously threatened by such factors as: climatic change, ozone depletion, acid rain, radio-isotope contamination from nuclear power plants, water pollution, land degradation, the rapid extinction of plant and animal species, and forest depletion. Never before in the history of this planet has its thin life-supporting surface been subject to so many diverse pollutant agents. With humankind continuing to foul its own nest, relief is being sought in what seems a fanciful notion of establishing new habitats beneath the sea and on other planets. Clearly it would be preferable and more responsible to devise strategies of sustainable development here on Earth.¹²

The domino effect associated with the interdependency of life on the planet had been understood for many years. As Rhodes has stated:

The ecosystem, within the ecological perspective, is an active energetic composite ... It is not only the individual members of the system who act and react, but the total ecosystem 'behaves' as a whole. In this sense, behaviour is not only a function of an individual, it is also a function of the ecosystem or its subsystems.¹³

11 Ghazi P *Canberra Times*.

12 Campbell J *Educating for a Better World Vision to Action*, 1998.

13 Rhodes, 1972, pp 558-559.

John Fien related this kind of thinking directly to the issue with which we are concerned here:

[It] means seeing the environment as a complex web of global social, cultural, economic and political as well as geo-and bio-physical components. It also means realising that environmental and development problems cannot be understood without reference to social, economic and political values, and that managing the global crisis will depend upon changes in personal values, lifestyle choices and global patterns of development and trade.¹⁴

The belief that science can solve the problems piece by piece has been exposed as a fallacy, as one claimed solution often became an even greater problem within a few years.

The scientific advances in agriculture provide an example of this. World agriculture productivity increased enormously in the 20th century, bringing relief to millions of people, but the cost in the form of unexpected and unintended effects was very high. As Remenyi pointed out, soil borne mineral salts, erosion, and chemical residues from fertiliser, pesticide and crop disease protection programs took a heavy toll on the resource base, humanity and all other living creatures.

Motivating a change movement

The NGOs leading the call for a change in business ethics and government legislation drew their motivation from writers like Toynbee, who suggested in 1989 that the very fact that the then current malaise was a result of human actions was encouraging:

... we must not be defeatist, passive or aloof in our reaction to the current evils that threaten mankind's survival. If these evils were caused by forces beyond human control, resignation and submission might be the only course open to us. However, our present evils are man-made and ought to be man-cured as well.¹⁵

An unknown writer within the World Commission for Environment and Development project claimed that human beings are ideal seekers who, moreover, have some power of control over the realisation of their visions.

The future holds unpredictable elements, but it is apparent that we can help to give it shape ... We need to accept that technology only changes possibilities. It is our choices from those possibilities which will build the future. The nature of the major problems which face us show us clearly the nature of those choices. They are not technical but moral choices. They are a statement of what we believe a good society should be.¹⁶

Dodswell found support to link movements associated with the achievement of environmental sustainability with other movements dedicated to overcoming the problems of poverty, illiteracy and militarism:

... The Earth Summit at Rio de Janeiro saw the essential indivisibility of

¹⁴ Fien J, 1997 p 13.

¹⁵ Toynbee, 1998.

¹⁶ Report by the World Commission for Environment and Development.

environment, peace and development. It also recognised that global interdependence could no longer be conceived only in economic terms. Alongside, there was the recognition that the root causes of global human insecurity reached far below the calculus of military parity. They were related to the instability spawned by widespread poverty, squalor, hunger, disease and illiteracy. They were connected to the degradation of the environment. They were enmeshed in inequity and injustice.¹⁷

Unfortunately the Australian Government, leading up to the 2008 riots, did not appreciate the dictum that when chaos strikes, there's simply no time for secrecy. As a result they enabled protest leaders to engage every willing soul. The field for improvisation in protesting was wide open — no emergency drill ever prepared protesters for what they actually ended up doing. Individual initiative and involvement appeared everywhere. Yet surprisingly, in the midst of the 2008 conditions of devastation and fear, people reported how good they felt about themselves and their colleagues, the best of people became visible, and their world did change.

What we know about people in the 2008 crisis

The following lessons about people in crisis were demonstrated in 2008 as all citizens struggled to come to terms with the long term significance of thousands of messages — in some form or other, implied or stated — that community, business and government leaders had lost control of the environment to the polluters:

- shared purpose and meaning brings people together;
- people can display unparalleled levels of creativity and resourcefulness;
- people want to help others — individual agendas fade immediately;
- people learn instantly and respond at lightning speed;
- the more information people get, the smarter their responses;
- leadership behaviours (not roles) appear everywhere, as needed; and
- people experiment constantly to find what works.

Unfortunately, economic globalisation was not matched in 2008 by the globalisation of political structures, or the development of a national system of governance that could shape, mould and control the powerful emerging forces and ensure they delivered for the many rather than the few. There was a vacuum at the heart of globalisation. The leadership of government lacked a moral dimension, a sense that there was something wrong about a system that apportions risk to those able to bear it least and which tolerates grotesque disparities in wealth and well-being.

It was equally clear that policy makers lacked an adequate framework for coping with the challenges of the new disorder. Financial crises were becoming more regular and more virulent, trade policy was governed by the demands of Western multinationals, and market forces were on a collision course with the global environment; for example, there was no structure for ensuring that the development and sale of genetically modified food was based on food security and health rather than on short term profit.

Political resolution

In the summer of 2008, Dr Bob Brown issued a statement which swung the people of Australia away from a bloody confrontation and behind the new Green Coalition Government. In essence the statement was a new 'creed' which has since been adopted by all sections of the Australian community and is the basis of greater confidence about the future:

¹⁷ Dodswell, 1995 p 17.

Our concern about the sustainability of the whole planet is not because of the shortage of inputs (as the Club of Rome had it) but because of the increasing shortage of 'sinks' — nowhere left to put our 'rubbish'. In this government, the concern is with the circulation not of 'goods' but of 'bads' — pollutants that effect global climate, nuclear waste that threatens life itself, virulent zoonotic viruses that spread because animals which would not traditionally co-exist have been forced together by lack of space.

Australian business has a choice. It can (a) go along with the new constraints (and risk reduced profits through higher costs), (b) fight it (à la Australia's position at Kyoto), risking any semblance of government endorsement and losing its international reputation as a 'clean place that produces clean, green goods', or (c) adopt a whole new philosophy akin to an 'ecology of commerce' (including industrial ecology), making money as a clean green provider.

The government will support (c), as will the people of Australia who have given us such a mandate. This position is profoundly different from the other two we have previously lived under.

In a postmodern Australia, there is now a rejection of the institutions of the modern world. Markets will become local again, non-material values will become valued again, and idealism (based on a renewed spirituality) will greatly temper the rampant materialism of the last decade. Our approach will dictate a far greater adaptation on the part of businesses than the other two, and is therefore most likely to trigger the greatest creativity among the stakeholders in thinking about how they will respond innovatively to the challenges put before them today.

No one in Australia had a right to be surprised when the populace cried out 'enough is enough' and took to the streets in 2008 to gain control over their environment. Kim Beazley, the then Labor leader, spoke the following prophetic words at *The Australian* newspaper's Future Conference in 1999:

The losers from change are being pushed to the margins. Our nation is becoming divided geographically and socially. And it is making our regions more politically volatile.¹⁸

Concluding reflections

The impact of the 'green revolution' on Australian business 1999-2015

Corporate response to customer and shareholder demands towards the end of the 1990s was becoming central to marketplace competitiveness. Firms seeking to satisfy diverse stakeholders discovered that proactive environmental management required more than simple adjustments to government policies. The strategies required firms to make more effective use of corporate intelligence to define new missions, realign company value systems, find new ways of managing change, accelerate training and education, and modify behaviour throughout the

¹⁸ Keynote Luncheon address to the 'Nation Building: The Social Imperative' conference Melbourne 4-5 May 1999.

organisation. For many firms, the challenge was to balance these concerns with cash flow, profitability, and environmental protection in order to respond to the demands of increasingly diverse groups of stakeholders. Many companies that adopted quality management programs to improve their competitive positions — 3M, Kodak, Sony, Alcoa, Volvo, Procter & Gamble — are also recognised by stakeholders for their exemplary environmental performance.

Progressive companies shifted rapidly from a strategy of regulatory compliance to one of proactive environmental management. For some firms, environmental values were an integral part of their corporate cultures and management processes. In a number of companies, environmental impacts were audited and accounted for as a 'second bottom line'. However, the inertia against such change saw most companies, particularly the high polluters, ignore the early indicators of consumer demands and therefore experience considerable conflict — conflict being initiated both from within and outside the organisation in the period leading up to the major disruptions experienced by all businesses in early 2008.

The quality-driven consumer orientated businesses that changed their perceived polluting behaviour before the start of this millennium learnt that pollution prevention is often far less costly than regulatory compliance. And cutting edge firms went beyond preventing pollution in their own operations and explored new opportunities for developing green products, processes and technologies. While these companies were also affected by the disruptions to business from protesters before 2008, they were the first to recover. These enterprises benefited from the rapidly expanding markets for pollution prevention technologies, processes and services stimulated by government intervention. These companies developed new sources of revenue, and technology diffusion assisted governments around the world to control effectively the emission of air and water pollutants that had degraded environmental resources.

The failure of so many business entities to respond to the early indicators for change is surprising in light of the following statement written in 1998 by Michael Berry the typified the sort of material being published in many business forums:

The expansion of the global market and the proliferation of international trade agreements are impelling the movement toward voluntary international standards for environmental quality management. International competition motivated more than 127,000 companies in 99 countries to become certified by 1996 under the ISO 9000 series guidelines for quality management. Total Quality Management (TQM) has had a profound effect on how businesses view their management systems and has indirectly stimulated improvements in environmental performance. The growing recognition by many business leaders of the importance of environmental protection to their international competitive advantage has led to new rounds of proactive voluntary standards emphasising the integration of environmental management and corporate strategy. The American Society for Testing and Materials (ASTM) is making headway in standardising environmental auditing, assessment and criteria for investment and insurance. British standard BS7750 was an industrial response to the adoption of the 1990 *Environmental Policy Act* in Great Britain that has been widely adopted internationally. The European Community has issued a Standard Eco-Management and Audit Scheme (EMAS), which member nations are expected to implement. And the ISO 14000 series is likely to become the dominant international standard for environmental management systems. Although these standards differ somewhat in their requirements and criteria, they all seek explicitly to encourage corporations to integrate environmental and corporate management systems.

The Swiss industrialist and former chairman of the Business Group for Sustainable Development, Stephen Schmidheiny, predicted in 1990 that changes in environmental thinking would bring '... a new industrial revolution. It is the most forceful trend in my lifetime. It will reshape business because it will redefine the rules of the game.' Across the industrialised West, and in most newly industrialising nations, corporations are embracing environmental protection as part of their international competitive strategies. The shift to proactive environmental management is driven by pressures from governments, customers, employees, and competitors. Both consumers and investors are beginning to see more clearly the relationship between business performance and environmental quality. The trend toward proactive environmental management is being accelerated by public pressures on governments almost everywhere to assure a cleaner environment.

Government regulations have become more stringent, legal liabilities for environmental damage have become more burdensome, and customers have become more demanding. But more importantly, there is growing evidence that firms that adopt proactive environmental management strategies become more efficient and competitive. Calls for responsible corporate behaviour are coming from investors, insurers, environmental interest groups, financial institutions, and international trading partners.¹⁹

How disappointing it must have been for Michael Berry and other writers on this theme to see how their words fell on deaf ears. Their observations were not the tip of an iceberg of corporate change, but only pieces of driftwood in a sea of apathy.

The financial benefits of joining the green approach to business was highlighted at this time by performances such as one reported in the 4 June 1999 edition of *Interpress*:

The giant electronics company Fujitsu says it had a net gain of four billion yen (US\$33 million) in economic benefits in 1998 alone as a result of 'environmentally friendly expenditures'.²⁰

There is no doubt that back in 1999 business leaders in Australia, like their international colleagues, believed that new ways of doing business were required. The following extract from a speech on 30 March 1999 by Campbell Anderson, then President of the Business Council of Australia, was the sort of message regularly heard at conferences:

The Business Council takes as its starting point the need for broad-based community support for Australia's participation in the world economy, on the basis that we will best make our way by being internationally competitive. In our view, this approach is the only one that can lead to high living standards for all and increasing employment opportunities.

As such, the Business Council continues to seek community consensus around the business agenda.

Judging from what I read in the press, some may find it perplexing that the Business Council is prepared to make its voice heard in areas which have not traditionally been ones where it has sought to make a major contribution.

I make no apology for this. The Business Council's position reflects the situation Australia faces now and the clear recognition that business exists in the community and needs community support to be successful.

Companies looking at Australia as a business and investment location should take comfort from the fact that the Business Council is strongly committed to seeking improvements to the environment for businesses of all kinds. Such improvements will have the effect of increasing Australia's relative attractiveness and contribute to economic growth and higher living standards.

19 Berry M ('Proactive corporate environment management: A new industrial revolution' *Academy of Management Executive*, 12(2): 38-50, 1998 May).

20 *Interpress*, 4 June 1999.

We are here for the long haul and will base our advocacy upon solid research and analysis.

In doing so we will also work with important community interests to ensure we develop approaches that are well rounded and capable of attracting a solid consensus for change. Change that is continuous, change that can be disruptive, change that although challenging is change that will ensure the economic growth and prosperity that is essential if we are to have a fair society.²¹

But it was not until profits became unsustainable in a hostile consumer environment that substantive and fundamental changes occurred across the board in Australian business practices.

Perhaps things may have been different if insights of a GBN workshop in 1997 on 'business and social responsibility' hadn't taken 10 years or more to be understood and responded to. Today the graduating students of 2015 from Australia's Business Institutes see the following extract from the report of that workshop as prophetic. They wonder why so many Australian national and local enterprises allowed themselves to be so damaged by the unilateral behaviour of many transnational corporations. This is the way business has found itself after 15 years of turmoil and agony.

Suddenly, it clicked: the unbelievable beauty of being human is not part of today's business language.

But is business an insertion, an intrusion, or is it a companion, a participant in the unbelievable beauty of being human? Is it an outside force that operates without regard for the concerns of our societies, or can business collaborate with the communities within which it operates?

The governments that are supposed to represent the interest of people, communities, and societies at large are bound by the geographical limits of their authority. Furthermore, they may lack legitimacy among the people they claim to represent. Multinational businesses, on the other hand, operate today without concern for the geography of political boundaries, and relate to 'markets' — abstract agglomerations of communities, nations, and societies. If businesses are to optimise their role of providing for the needs of societies, new institutions, like the socially viable incorporation, will be necessary.

Participants identified a need to invent a new vocabulary for discussing social responsibility, one that engages the heart and emotions as well as the mind and wallet. All the groups contributed new additions to the language of business. The Financial Systems group, in identifying criteria for success for a new regional investment bank model, mechanisms for its operation, and expectations of shareholders, offered a new language for socially viable businesses. It also took a big step toward developing a new language when it identified four fundamental classes of capital that could be used in assessing and evaluating socially viable businesses.

Another place to start would be to replace the very term 'social responsibility' with terms that reflect the practical motivating power of enlightened self-interest: social viability, social effectiveness, and social responsiveness.

Another conclusion was the need for the language of business to include people. Employees are now 'factors of production,' resources to be employed and downsized — mere numbers in the language of investment, earnings, and markets. They are not members of the community with identities and families. The language of business and economics facilitates decisions to employ or not, to open an operation or close one, but does not account for the lives of people: the human condition. We must develop means for business to consider, evaluate, and be accountable for the way it deals with the people who work within it.

Because employment is part of our identity, part of our psychic makeup, the employment contract is an emotional contract. Changing that contract is a change in our identity; it requires the attention of a socially responsible business, and a business language that considers emotions.

21 Anderson C, 30 March 1999.

An important insight for coping with dilemmas came from the Government and Politics group: a 'framework of institutional competency' that could be used to better understand the accumulation of specific dilemmas. On one axis there seemed to be a progression of institutional competency from narrow, localised 'turf' to concerns on a planetary scale. On the other axis, the focus on problems seemed to progress from a fragmentary view of problems impacting a few, to a holistic view that saw how problems could impact many people — in some cases, everyone on earth.

The matrix that illustrates the framework shows that along the diagonal, government competencies tended to cluster at one extreme — limited turf and a fragmentary treatment of issues within that turf — while business competencies were distributed all along the diagonal, including the opposite extreme from government: unlimited turf and issues affecting everyone. Other institutions such as NGOs, regional trade groups, investment banks, and the United Nations scatter in the middle and toward the government end of the axis. This framework revealed the 'dilemma grande': at the global end of the diagram, where geography was not bounded and issues were global, there was no counter to the influence of business.²² ●

²² GBN Workshop, 1997.

Bibliography — research materials

Articles

- 'A globalised phenomenon' *Australian Financial Review* 15 June 1998, p 18.
- 'Aim for stability rather than growth' *Sydney Morning Herald* 29 July 1998, p 12.
- 'Avoid global claptrap' *Australian Financial Review* 23 March 1998, p 30.
- 'Capital needs overcome nationalism' *Sydney Morning Herald* 23 April 1999.
- 'Chinese company sued by Microsoft says its employees installed unlicensed software' *China Information News* 27 May 1999.
- 'Clinton cancels Taiwan trip' *New York Times*, reprinted in *Sydney Morning Herald* 23 July 1999, p 8.
- 'Competition at the pump' *Sydney Morning Herald* 22 July 1998, p 14.
- 'Downside of an open economy' *Sydney Morning Herald* 26 June 1998, letters p 18.
- 'Europe's ageing population: trends and challenges to 2025' *Futures*, 1989 supplement, S5-S52.
- 'Globalisation adds to Japan's agony' *Australian Financial Review* 21 September 1998, p 20.
- 'Globalisation and employment — new opportunities, real threats' *Panos Briefing* no 33, May 1999.
- 'Globalisation, monoculturalisation and small-holder agriculture; Chilean case study and implications for South Pacific Islands' *Journal of South Pacific Agriculture* 1997 4: 1/2, pp 154-66.
- 'IMF suggests ways to cut the risks of globalisation' *The Age* 5 May 1998, p 10.
- 'International demographic trends and perspectives on aging' *Journal of Cross-Cultural Gerontology* 1986, pp 1, 5-30.
- 'Microsoft copyright case goes to court in Beijing this Thursday' *China Commercial News* 24 May 1999.
- 'Mr Howard looks ahead' *Sydney Morning Herald* 29 January 1998, p 14.
- 'Murdoch sees future — and fortune — on Web' *Sunday Telegraph* London.
- 'OECD Economic Outlook Highlights' *OECD Observer* no 212, June-July 1998, pp 45-7.

- 'The bush vacuum cleaner' *Sydney Morning Herald* 24 June 1998, p 15.
- 'Why are primary producers forced to pay?' *Sydney Morning Herald* 10 August 1998, p 12.
- 'Zhu says April WTO concessions to US still valid, China and Japan reach deal' Reuters 9 July 1999.
- Allard T 'Jobs ads at highest level in 8 years' *Sydney Morning Herald* 6 October 1998, p 5.
- Allard T and Seccombe M 'Seven years for tax reform to create jobs: experts' *Sydney Morning Herald* 29 September 1998, p 8.
- Aylmer S 'Costello predicts beneficial new era' *Sydney Morning Herald* 2 July 1998, p 27.
- Aylmer S 'Start shopping around for best rates, says Costello' *Sydney Morning Herald* 1 April 1998, p 31.
- Bagwell S 'European investors find a new interest in Australia' *Australian Financial Review* 1 June 1999.
- Banks G 'Defending the Productivity Commission' *Australian Financial Review* 27 August 1998, p 11.
- Barde J and Smith S 'Do economic instruments help the environment?' *OECD Observer* no 204, February-March 1998, pp 22-26.
- Barker G 'Fischer promises tougher scrutiny of competition policy' *Australian Financial Review* 19 September 1998, p 4.
- Barker, G 'Canberra's Global Dilemma' *Australian Financial Review* 3 January 1998, p 24.
- Bates, S 'Building Better Workers' *Nation's Business* 86(6): 18-24, June 1998.
- Beazley K 'In pursuit of fairness' *The Australian* 8 May 1999, p 4.
- Beer S 'Melbourne chips in for Intel plant' *Australian Financial Review* 14 February 1998, p 5.
- Bell, Stephen 'Globalisation, neoliberalism and the transformation of The Australian State' *Australian Journal of Political Science* Vol 32 No 3, pp 345-367.
- Berry, Michael et al 'Proactive corporate environment management: A new industrial revolution' *Academy of Management Executive* 12(2) May 1998, pp 38-50.
- Boyd T 'Mahathir's message of meddling foreigners' *Australian Financial Review* 22 June 1999, p 1.
- Boyle J 'Emery on track to join top five' *Australian Financial Review* 5 January 1998, p 21.
- Brain P 'How Australia can survive the 21st century' *The Age* 19 April 1999.
- Brenchley F '97 marked by merger mania' *Australian Financial Review* 2 January 1998, p 11.
- Brenchley F 'Business sets a cracking pace for globalisation' *Australian Financial Review* 21 May 1998, p 16.
- Burchill S 'Marx's early perspective of globalisation' *Australian Financial Review* 12 August 1998, p 17.
- Burton T 'Telstra and the national interest' *Australian Financial Review* 20 January 1998, p 10.
- Byerlee D et al 'Critical resource, technology and environmental issues for meeting future grain production needs in Asia' *American Journal of Agricultural Economics* vol 79 1997, pp 1480-1485.
- Callick R 'First Person' *Australian Financial Review* 5 January 1998, p 20.

Caruthers S and Smith S 'Challenge for the information society' *Information Services and Use* vol 17 no 4 1997, pp 225-240.

Ching F 'China—Taiwan Gulf still wide' *Far Eastern Economic Review* 5 November 1998.

Clark P 'Battle for Dog Trap Gully: John Anderson's painful journey' *Sydney Morning Herald* 18 September 1998, p 1.

Cleary P 'In Australia, fulltime work makes comeback' *Sydney Morning Herald* 13 February 1998, p 1.

Colebatch T 'Globalisation's doomsday profits' *The Age* 20 March 1998.

Cornell A 'Japan's banks in quiet but hasty retreat from Asia' *Australian Financial Review* 7 June 1999, p 11.

Cornell A 'The many tribes of modern management' *Australian Financial Review* 7 February 1998, p 24.

Cornell A 'The power of two' *Australian Financial Review* 25 July 1998, p 26.

Cornell A and Mitchell A 'RBA tack revealed as jobless dip below 8pc' *Australian Financial Review* 8 May 1998, p 1.

Crowe D 'From cyberspace to ground zero' *Australian Financial Review* 22 June 1999.

Crowe D 'Silicon Valley's startup culture' *Australian Financial Review Magazine*, pp 26-34.

Cullen R 'Workskills and National Competitiveness: External Benchmarks: Benchmarking Australian Qualification Profiles Report No 2' *Monthly Labor Review* vol 121 no 2, February 1998, pp 22-47.

Curtain R 'The workplace of the future: Insights from futures scenarios and today's high performance workplaces' *Australian Bulletin of Labour* vol 24 no 4, December 1998, pp 279-94.

Davidson K 'Globalisation: code for cutting back our rights' *The Age* 30 March 1998, p 15.

Dowling B 'Why Greenspan needs to ease rates' *Australian Financial Review* 25 September 1998, p 35.

Dryden J 'Realising the Potential of Global Electronic Commerce' *OECD Observer* no 214, October/November 1998, pp 20-22.

Editorial *Australian Financial Review* 9 June 1998.

Editorial *Wall Street Journal* 18 May 1998.

Elliot, L 'Putting the morality back into globalisation' *The Guardian*.

Emde E 'Employee values are changing course' *Workforce* 77(3): 83-84, March 1998.

Evans S 'Corker year tipped for vineyard investment' *Australian Financial Review* 10 January 1998, p 16.

Feeny D 'Strategy lessons from a virtual corporation' *Australian Financial Review* 30 September 1998, p 4.

- Ferguson A and James D 'Globalisation: ready or not' *Business Review Weekly* 31 August 1998, pp 38-41.
- Fox C 'Mergers not the right medicine' *Australian Financial Review* 22 September 1998, p 30.
- Freeman C 'The ecology of hope: communities collaborate for sustainability' *Journal of Environmental Planning and Management* no 41(5), Sep 1998, pp 651-2.
- Fukuyama F 'The great disruption' *Australian Financial Review* (Review), 4 June 1999, p 1.
- Fyfe M 'New Industry' *Business Review Weekly* 26 January 1998, p 29.
- Gittens R 'Globalisation Needs Reforming' *Sydney Morning Herald* Monday 25 May 1998, p 37.
- Gittins R 'But what about Wall Street?' *Sydney Morning Herald* 21 June 1999, Business p 1.
- Gittins R 'New light thrown on unemployment' *Sydney Morning Herald* 7 March 1998, p 94.
- Gottlieb R and Kirby J 'Young talent time at the top' *Business Review Weekly* 14 December 1998, pp 46-52.
- Gray J 'Clinton fells Kosovo slug in the polls' *Australian Financial Review* 1 June 1999, p 12.
- Greenspan A 'Our nation's ability to compete worldwide: Unprecedented flexibility to adopt to change' *Vital Speeches of the Day* 64(4) December 1997, pp 98-101.
- Gunn M 'Spotlight homes in on social policy' *The Australian* 8 May 1999, Australia Unlimited p 2.
- Haile S 'Environmental management systems and cleaner production' *Journal of Environmental Planning and Management* no 41(2), Mar 1998, pp 268-9.
- Hamilton, Clive 'Winners and losers from Globalisation' *Australian Science* (incorporating *Search*) July 1998, pp 42-44.
- Haour G 'Managing innovation in the 24 hour laboratory' *Australian Financial Review* 30 September 1988, p 2.
- Harley R 'Americans send in the heavy artillery' *Australian Financial Review* 20 September 1998, p 33.
- Hartcher P and Cornell A 'Defender of the Japanese way calls for modernisation' *Australian Financial Review* 25 May 1999, p 1
- Hartcher, P 'Retreat from the free market' *Australian Financial Review* 24 September 1998, p 17.
- Healy G 'Corporate uni a first for Deakin' *The Australian* 14 April 1999, p 35.
- Helmer O 'Some gaps in futures research' *Futures* vol 30 no 9 1998 pp 941-43.
- Henderson G 'If we're against globalisation, is it us against the world?' *Sydney Morning Herald* 25 August 1998, p 15.
- Hilmer F 'Competition is still the way to go' *Sydney Morning Herald* 23 June 1998, p 15.
- Hiscock J 'Economy ready to change gear' *The Australian* 8 May 1999, Australia Unlimited p 6.
- Hogan R 'Investment strategy pays off for Dresdner' *Australian Financial Review* 2 January 1998, p 28.
- Howard J 'Time to build on bold ideas' *The Australian* 8 May 1999, Australia Unlimited p 5.
- James D 'Does globalisation with its "level playing field" mean a return to a flat earth?' *Business Review Weekly* 2 November 1998, pp 74-77.
- James D 'Globalisation means more than trade' *Business Review Weekly* 21 July 1997, p 68.

James D 'More and more, globalisation is making the world go round' *Business Review Weekly* 13 October 1997, pp 88-89.

James D 'Nation-States can still rule the waves' *Business Review Weekly* 8 September 1997, p 80.

James, D 'How the world may end up paying for the allure of globalisation' *Business Review Weekly* pp 62-63.

James, D (1997) 'Australia must think outside the square to cope with globalisation' *Business Review Weekly* 8 September 1997.

Johnson C 'How America's crony capitalists ruined their rivals' *Sydney Morning Herald* 5 July 1999 p 17.

Jones B 'Now for the clever country' *Sydney Morning Herald* 12 July 1999, p 15.

Jopson D 'Jobless future for one in two Aborigines' *Sydney Morning Herald* 24 August 1998, p 3.

Jopson D 'Sydney gets richer, the bush gets poorer' (The Great Divide; special report) *Sydney Morning Herald* 7 June 1999, p 1.

Judis J B 'Politics took the free market hostage long ago' *Australian Financial Review* 27 May 1999, p 21.

Kelly J 'Free trade report exposes NIMBY traits' *Australian Financial Review* 8 July 1999, p 21.

Kernot S 'Australia's lost workforce: lecture to the Sydney Institute' *Australian Financial Review* 23 April 1998, p 19.

King S and Pitchford R 'Privatisation in Australia: understanding the incentives in public and private firms' *The Australian Economic Review* vol 31 no 4, pp 313-328.

Kleinknecht and Wengel 'The myth of globalisation' *Cambridge Journal of Economics* no 22 1998, pp 637-47.

Kogut B 'What makes a company global?' *Harvard Business Review* January-February 1999, pp 165-170.

Kohler A 'The imperative of globalisation' *Australian Financial Review* 7 July 1998, p 19.

Krauthammer C 'The real China scandal' *Australian Financial Review* 2 June 1999, p 18.

Kuttner R 'Globalisation's dirty little business trick' *Australian Financial Review* 11 September 1998, p 5.

Lagan A 'Employees want work that satisfies their values' *Australian Financial Review* January 29 1999.

Lague D 'Fearful party leaders ban sect' *Sydney Morning Herald* 23 July 1999 p 8.

Lahidji R 'The agro-food sector in the 21st century' *OECD Observer* no 210, February/March 1998, pp 28-31.

Latham M 'Competition not a dirty word' *Australian Financial Review* 2 July 1998, p 16.

Latham M 'The new politics — an Australian story' *Policy Summer* 1998-99.

Latham M 'The power of competition: an edited extract from Mark Latham's response to the Review of the National Competition Council Annual Report' *Australian Financial Review* 25 June 1998, p 18.

Lekakis G 'Celluloid war has states bidding for real bickies' *Australian Financial Review* 22 June 1999, p 20.

Leser D 'It takes a village' *Good Weekend* 5 June 1999, p 40.

Llewellyn M *Australian Financial Review* 28 May 1999.

Loble L 'Voters ready to dump globalisation policies' *Sydney Morning Herald* 1998 p 13.

Long B 'Environmental regulation or volunteer action?' *Chemical Week* 160(25), July 1998, p 125.

Long S 'Melbourne v Sydney: the job market divide' *Australian Financial Review* 23 September 1998, p 8.

Long S and Butler G 'The anti-guru of globalisation' *Australian Financial Review* 21 March 1998, p 30.

Loxley S 'Face up to global challenges, Clairs urges executives' *The West Australian* 22 March 1999, p 38.

Main A 'The year starts on a blast of Eco Air' *Australian Financial Review* 2 January 1998, p 22.

Majid T 'Mapping trends and tensions in global governance' *Social Alternatives* vol 17 no 3, July 1998.

McCathie A 'Globalisation shifts into overdrive in key industries' *Australian Financial Review* 7 July 1998, p 14.

McGregor C 'The great divide' *Sydney Morning Herald* 27 February 1999, Spectrum Feature.

McGregor R 'Modern conservatism thatches the policy' *The Australian* 8 May 1999, Australia Unlimited p 2.

McGuinness P 'Romantic unreason the fad of our era' *Sydney Morning Herald* 18 June 1998, p 17.

McGuinness P 'Selling Telstra makes sense' *Sydney Morning Herald* 19 March 1998, p 17.

McShulsis E 'Part-time plans have a positive impact' *HR Magazine* 43(1), January 1998, p 26.

Meredith H 'Net-talk: it's just mouthing off' *Australian Financial Review* 3 June 1999, p 42.

Merritt C 'Judge warns that without rule of law there can be no market' *Australian Financial Review* 14 May 1999, p 27.

Mitchell A 'Wage growth hindering lower unemployment' *Australian Financial Review* 14 February 1998, p 46.

Montgomery B 'State of depression' *The Australian* 27 April 1999, p 32.

Murdock D 'The poor getting richer in the US' *Australian Financial Review* 13 May 1999, p 20.

Murphy K 'Basic reforms overdue: Samuel' *Australian Financial Review* 20 March 1998, p 10.

Murphy K 'Competition reforms under fire; the Hanson backlash' *Australian Financial Review* 17 June 1998, p 5.

Neubauer D 'The incredible shrinking state, or will there be social services when the state goes out of business?' *Social Alternatives* vol 17 no 3, July 1998 p 10.

Nicholas K 'No home here yet for cyber flunkies' *Sydney Morning Herald* 9 July 1999, p 24.

Norman N, 'The Age economic Survey', *The Age*, 29 July 1999, Business p 4.

O'Meara M 'Kinetic's global mission: assault on battery markets' *Australian Financial Review* 2 January 1998, p 22.

- O'Neill W 'The market reality of power' *Australian Financial Review* 21 February 1998, p 22.
- Papaconstantinou G 'Technology and Industrial Performance' *OECD Observer* no 204, February/March 1998, pp 6-10.
- Peart G 'Globalisation here to stay' *Australian Farm Journal* 1998 (6), p 14—15.
- Perkins S 'Focus on transport emissions needed if Kyoto's CO2 targets are to be met' *Oil & Gas Journal* 96(3), January 1998, pp 36-9.
- Plake M and Somers K 'Strategic alliances in the knowledge workplace' *Journal for Quality & Participation* 21(4), July/August 1998, pp 39-43.
- Pockley P 'Free market is advocated for Australian universities' *Nature* 392 (6679), April 1998, p 854.
- Quelin B 'Learning more by learning together' *Australian Financial Review* 30 September 1998, p 14.
- Quiggin J 'Neo-liberalism has failed to live up to its promises' *Australian Financial Review* 3 June 1999, p 19.
- Ramsey S *Scottish Agricultural College Report* 26 January 1999.
- Rappaport A et al 'Population trends and the labour force in the years ahead' *Benefits Quarterly* 14(4): 8-17, 4th quarter, 1998.
- Reich R 'The well-off reinvent the loser-pays principle' *Australian Financial Review (Review)*, 21 May 1999, p 5.
- Richardson J 'Low blow to our high-tech' *The Australian* 10-11 April 1999, p 5.
- Rintoul S 'Hanson thrives in social chasm' *The Australian* 8 May 1999, Australia Unlimited p 6.
- Roberts P 'Biotechnology beckons us to a second chance' *Australian Financial Review* 6 February 1988, p 49.
- Roberts P 'Pioneer Polartech strong on know-how' *Australian Financial Review* 9 January 1988, p 30.
- Roberts P 'The selling of science' *Australian Financial Review* 11 February 1998, p 14.
- Roberts P 'Value adding an export antidote' *Australian Financial Review* 20 February 1998.
- Roberts P 'Why high-flyers must be given room to manoeuvre' *Australian Financial Review* 27 March 1998, p 54.
- Robertson D 'The university for industry — a flagship for demand-led training, or another doomed supply-side intervention?' *Journal of Education & Work* vol 11 no 1, March 1998, pp 5-22.
- Robertson D 'The emerging political economy of higher education' *Studies in Higher Education* 23(2) June 1998, pp 221-28.
- Robertson D *The Pelham Papers* no 5 1999.
- Rodeck E 'The true price of globalisation' *The Age* 23 June 1998, p 14.
- Rodriguez J 'An export that developing countries don't need' *The Washington Times*.

- Ruthven P 'New jobs and greater productivity: the enabling power of IT&T' *Australian Financial Review* 2 May 1998, p 5.
- Ryan C 'It seemed like a good idea' *Australian Financial Review* 17 January 1998, p 25.
- Saul P 'Clever work, clever country: an Australian scenario' *Australian Bulletin of Labour* vol 24 no 4, December 1998, pp 307-316.
- Schwartz P 'The Long Boom: A History of the Future, 1980-2000', *WIRED* Archive, 5 July 1997.
- Schwartz P and Weber S 'The Draft GBN Global Scenarios and the Forces Driving Them' *GBN Imprint* vol 2 no 5.
- Scoppola M 'Multinational enterprises and national policies on world agricultural markets' *Economie Rurale* 1996 no 234/235, pp 54-57.
- Seabrook J 'Globalisation's truth: free markets and captive people' *Australian Financial Review* 3 July 1998, p 4.
- Secombe M 'A railway for when things go off the rails' *Sydney Morning Herald* 24 June 1998, p 6.
- Secombe M 'O lucky man' *Sydney Morning Herald* 15 January 1998.
- Shanahan D 'A fair and decent place' *The Australian* 8 May 1999, Australia Unlimited p 1.
- Sheehan P 'The changing nature of work: some implications' *Australian Bulletin of Labour* vol 24 no 4, December 1998, pp 317-31.
- Sheridan G 'Bittersweet fruit of globalisation' *The Australian* 8 May 1999, Australia Unlimited p 6.
- Stanwick P and Stanwick S 'The relationship between corporate social performance and organisational size, financial performance, and environmental performance: an empirical examination' *Journal of Business Ethics* 17(2) Jan 1998 pp 195-204.
- Steketee M 'Budgeting for a social conscience' *The Australian* 8 May 1999, Australia Unlimited p 3.
- Tibbs H 'Global scenarios for the millennium' *Company Director* vol 15 no 1, 1999, pp 18-21.
- Toohey B 'Consumption not that clever' *Australian Financial Review* 21 May 1999.
- Treadgold T 'Exporter confronts the limits of success' *Business Review Weekly* 26 January 1998, p 25.
- Treadgold T 'High-tech exporter is a cut above' *Business Review Weekly* 26 January 1998, p 34.
- Turner B 'Tough times at the top' *Australian Financial Review* 13 February 1998, p 33.
- Van Wygen G 'New age economy or stock market bubble?' *Australian Financial Review* 22 June 1999, p 18.
- Waldren M 'Big guns for hire' *The Australian* 11 March 1998, p 11.
- Wallis J 'Understanding the role of leadership in economic policy reform' *World Development* vol 27 no 1 1998, pp 39, 54.
- Wallis S 'Perils of isolationism dealing with Hanson' *Australian Financial Review* 18 June 1998, p 17.
- Walsh M 'The trouble with bubbles' *The Bulletin*, 20 July 1999 p 64.
- Willis K 'Eco-Taxation' *Journal of Environmental Planning and Management* 41(4) July 1998 pp 519-20.
- Winsome B 'Councils face up to work problems in the bush' *Sydney Morning Herald* 3 February 1998, p 16.
- Wright J 'Individualism the cry of the MTV generation' *Australian Financial Review* 21 May 1999, p 7.
- Wyatt S 'Industrials gain while rurals still in pain' *Australian Financial Review* 5 July 1999 p 40.

Yap W and Rejeski D 15(1) *Issues in Science and Technology* pp 33-36.

Yatsko P 'Applied skills — China's appliance makers ready for open markets' *Far Eastern Economic Review* 5 November 1998.

Christmas D 'Can humanitarian management and optimal productivity be achieved in Australia?' *Globalisation and Regional Communities, Internationalising Communities Conference* 1997, p 121.

Coghill L 'Rural Queensland: challenges for the future' *Globalisation and Regional Communities, Internationalising Communities Conference* 1997, p 89.

Herbert J 'Strategies for overcoming uneven regional development' *Globalisation and Regional Communities, Internationalising Communities Conference* 1997, p 118.

Yelland P 'Skills not income a job bonus' *Sydney Morning Herald* 15 June 1999, p 12.

Books

1998 World View Meeting — *Navigating a Diverse Region: Scenarios for Asia, 24-26 August*, GBN Australia, Sydney, 1998.

Brandis G et al *Competition Law of Australia* Commonwealth of Australia.

Campbell J *Educating for a Better World Vision to Action*, 1998.

Instate Pty Ltd, *Japanese Trading Companies — Their Role in Australia's Economic Development* CEDA, 1997.

Landes D *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor* WW Norton & Company Boston 1998.

Natale S Fenton M *Business Education and Training: A Value-Laden Process vol II: The Developing Professional: Maintaining Values in Practical Training* University Press of America Inc.

Odgers P *The Information Workplace: Training the InfoTech Worker*.

Ogilvy J and Schwartz P *The Next Leap: Scenarios for the Future of China* (preliminary edition) GBN Australia, 1998.

Purcell T and Harrison S *The impact of trade liberalisation and increasing imports on Australian pig prices* University of Queensland, Department of Economics Information Series.

Readings B *The University in Ruins*, Harvard University Press, Cambridge Massachusetts, 1996.

Spoerhr J *Alternatives to Retrenchment* Adelaide Centre For Labour Studies, University Of Adelaide, 1994.

Tannery F *Targeted Jobs Tax Credits and Labor Market Experience* Employment Policies Institute, Washington DC.

Teal F *Measuring The Welfare and Revenue Effects of Trade Reforms* Australian National University, Centre for Economic Policy, 1990.

The Future for Public Services Public Management Foundation UK, 1998

Van der Heijden K *GBN Business Concept Innovation Meeting* Zurich, 6 July 1998.

Verdejo F and Davies G *The Virtual Campus: Trends for Higher Education and Training* International Federation for Information Processing, Geneva, Switzerland.

Reports & discussion papers

Australia State of the Environment 1996 State of the Environment Advisory Council, 1996.

Australian Bureau of Statistics 3101 — Australian Demographic Statistics.

Australian Bureau of Statistics 3102 — Australian Demographic Trends.

Australian Bureau of Statistics 3301 — Births, Australia.

Australian Bureau of Statistics 3310 — Marriages and Divorces, Australia.

Australian Bureau of Statistics 3412 — Migration, Australia.

Australian Bureau of Statistics 4102 — Australian Social Trends.

Australian Bureau of Statistics 4109 — Older People, Australia: A Social Report.

Australian Bureau of Statistics 4224 — Education and Training in Australia.

Australian Bureau of Statistics 4602 — Environmental Issues: People's Views and Practices.

Australian Bureau of Statistics 6101 — Labour Statistics, Australia.

Australian Bureau of Statistics 6203 — Labour Force, Australia.

Australian Bureau of Statistics 6209 — Labour Mobility, Australia.

Australian Bureau of Statistics 6238 — Retirement and Retirement Intentions, Australia.

Australian National Training Authority, Brisbane *Annual Performance Report 1996-1997*.

Australian National Training Authority, Brisbane *Bridge to the Future — Australia's National Strategy for Vocational Education and Training 1998-2003*.

Australian National Training Authority, Brisbane *Directions and Resource Allocations for 1996, 1997, 1998 Report to Ministerial Council*.

Borland J and Kennedy S *Dimensions, structure and history of Australian unemployment* Centre for Economic Policy Research, ANU, Discussion Paper 338 1998.

Borland J *Rural Labour Markets in Australia: A Review* Australian National University Centre for Economic Policy, 1998.

DFAT *Composition of Trade, Australia 1997-98* DFAT, 1998.

DFAT *Trade Outcomes and Objectives Statement* DFAT, 1998.

Dwyer P Harwood A et al *Participant Pathways and Outcomes in Vocational Education and Training: 1992-1995 Report of an ANTA-funded project*, Melbourne University Youth Research Centre, Research Report no 14.

Groenwold N and Hagger A *The Natural Unemployment Rate in Australia since the Seventies* Department of Economics, UWA, Discussion Paper 1997.

Hilmer F *Competition Policy: Underlying Ideas and Issues* Australian Graduate School of Management, UNSW, Discussion Paper 95-18, 1995.

Key Demographic Indicators, Research Report to ABF, June 1999.

Murtough G et al *Trade liberalisation and earnings distribution in Australia* Australian Industry Commission, 1998.

Netherlands National Council for Agricultural Research, *Globalisation and agribusiness: Future initiatives for knowledge and innovation* NRLO Hague, Netherlands 1998 no 98/2E.

OECD, *Communications Outlook* OECD 1999.

Queensland Annual VET Plan 1999 Marketing Intelligence Branch, Department of Employment Training and Industrial Relations.

Quiggin J *Employment and Unemployment in Australia; a Long Term Perspective* Submission to the House of Representatives, February 1995.

Ranald P and Thorowgood R *Review of Competitive Neutrality Policies and Local Government Policies of Government Under National Competition Policy* Public Sector Research Centre, UNSW PSRC Paper No 46.

Richardson P *Globalisation and Linkages; Macro-structural Challenges and Opportunities* OECD, Economics Department Working paper no 181.

Sectoral Skills Needs: The Role of Universities Task Force on Labour Market Issues, Office for Partnerships for Advanced Skills, Council of Ontario Universities, Toronto.

Sheehan P and Tegart G *Working for the Future* (brochure) Victoria University Press, October 1998.

The Future for public Services — 2008 Public Management Foundation UK, 1998.

Victorian Dept of Education, *Learning Technologies in Victorian Schools* Department of Education, Victoria.

Unpublished materials

'Pirated software puts China at high risk for Y2K problems, CIA says' China Online 9 March 1999.

'Rurality in shreds? Globalisation and fragmentation of mexican territories and rural societies' Proceedings of Rurality in the countries of the South at the end of the 20th Century workshop, Montpellier, 2-3 April, 1996 Edition de l'ORSTOM, Paris France 1997, pp 277-300.

ABF focus meeting, Canberra.

Anderson C 'Australia's transition to a globally competitive economy: the business agenda' address to the sixth Economist's Foreign Investor Roundtable, Canberra 30 March 1999.

Australian Government: more R&D grants awarded to Australian business' Press release, Department of Industry, Science and Technology, 6 April 1998.

Bawden R 'Of paradigms and scenario inquiries' unpublished, 1999.

Bawden R 'The Change Context' unpublished, 1999.

Blakey L 'The death of Australian science and technology' Ockhams Razor, ABC Radio National, 1 June 1997.

Buchanan P 'A European Assault on US Sovereignty', The American Cause website 18 March 1997.

Buchanan P 'Globalism vs Nationalism' The American Cause website.

Buchanan P 'New World Order Conservative Club', The American Cause website 22 September 1997.

Buchanan P 'The Rise of Sovereignty Fears', The American Cause website 4 May 1994.

Buchanan P 'The Sovereignty Issue Roils the Right', The American Cause website 7 May 1997.

Buchanan P 'World's Last Superpower — RIP', The American Cause website 6 June 1998.

Coates and Jarratt, GBN on-line discussion, June 1999.

Commerce Secretary Daley speech to US-China Business Council, 3 June 1999.

Ellis J 'Unemployment — its scope, its cost and our targets' Sir Richard Kirby Lecture, Department of Economics, UW, September 1996.

Fayle P (Department of Foreign Affairs and Trade), interview by correspondence (electronic), 23 June 1999.

Freeman O 'Meeting Report' ABN/GBN Inaugural Worldview Meeting, 10 June 1993.

Howard J, keynote address to the *Nation Building: The Social Imperative* conference Melbourne 4-5 May 1999.

International Conference on Alternatives to Globalisation, Tagaytay, Phillipines 9 November 1998.

Investment 2000 statistics sheets.

James D *Environmental Incentives: Australian Experience with Economic Indicators for Environmental Management* <<http://erin.govt.au/portfolio/dest/eeu/eeu-home.html>>.

Jamieson C 'The Unfamiliar Future: Challenges for International Business' special address to the Australia Summit, 17 June 1998.

Jones S 'Scenario Planning in Practice: the Austrade Experience' presentation at the Scenario-based Strategic Planning Conference, 26-28 October 1998.

Kennedy N 'Clever Industries of the future — the challenge for Australia' presentation at 1999 Western Sydney Industry Awards Luncheon 20 November 1998.

Larkin T 'Investing in Australia's Future: Achieving the 2010 Australia Vision' Business Council of Australia, 1994.

Lettieri A 'The Social Dimensions of Globalisation Centre for International Social Studies' <<http://epn.org/iess/lett.html>>.

Mulgan G 'Ethics, Business and Politics in a Connected World' lecture for the St James Centre, 10 November 1998.

National Carbon Accounting System Expert Workshop, The Australian, Greenhouse Office, 23-25 June 1998.

National Centre for Vocational Education Research, Leabrook (Australia), interview.

Newnham R, Data Materials Research Laboratory, Pennsylvania State University, interview.

SA Business Vision 2010 Scenario Analysis Questionnaire.

Sheales T 'Outlook for agriculture and minerals in northern Australia' Northern Australian Regional Outlook Conference 1998, Darwin, 24 September 1998.

Sheales T 'Prospects for Australian grain crops in 1998-99' Grain Forecast and Marketing Conference 1998, Canberra, 24 August 1998.

The Global Scenarios — Developing a scenario for Australia in an Emerging World report from the Scenario Workshop, Macquarie Graduate School of Management, May 1996.