

Kokoda Paper No. 9

May 2009

**THE WEALTH OF A NATION:
PREPARING AUSTRALIA'S HUMAN
CAPITAL FOR 2030**

David Schmidtchen

The Kokoda Foundation

www.kokodafoundation.org

Researching Australia's Security Challenges



Published in Australia by the Kokoda Foundation, May 2009

© The Kokoda Foundation

This book is copyright. Apart from any fair dealing for the purposes of private study, research, criticism or review as permitted under the Copyright Act, no part may be reproduced by any process without written permission. Inquiries should be made to the publisher. This book must not be circulated in any other binding or cover.

National Library of Australia
Cataloguing-in-Publications entry

Schmidtchen, David John, 1965- .

The wealth of a nation : preparing Australia's human capital for 2030 / David Schmidtchen.

ISBN 9780975821893 (pbk.)

1. Human capital--Australia. 2. National security--Australia. I. Kokoda Foundation. II. Title. (Series : Kokoda Papers ; no. 9).

331.110994

Series Editor: David Schmidtchen

Cover and design: Qote Canberra (02) 6162 1258

Cover pictures: Courtesy of the Department of Defence

Printed by: National Capital Printing

Published and distributed by:

Kokoda Foundation,
First Floor, 182-200 City Walk,
Canberra City, ACT 2600
(Ph) +61 2-6204-1822

Email: manager@kokodafoundation.org

Web: www.kokodafoundation.org

Additional copies are available from the Foundation at
A\$22.00 (including postage and GST) per copy.

PREFACE

This publication would not have been possible without the support and assistance of the public service departments and agencies who contributed time and effort to this project. During the course of this research senior officials spoke frankly about Australia's human capital. They were insightful, open and generous. I would like to thank all of those who contributed in the workshops and the many conversations that took place afterward.

Planning for this project began in June 2008. Three closed workshops were conducted in Canberra between November and December 2008. These workshops exposed the diversity of interests, views and opinions on the forces shaping Australia's future human capital. This report reflects that diversity but also the strong view that different thinking is required to bring about real change.

Gary Waters and Anna McCarthy were invaluable in helping to organise and manage the workshops. Gary also provided great assistance in organising the key ideas for the final report. Thanks are also due to Brendan Sargeant, Tony Hindmarsh, Malcolm McGregor and Ross Babbage.

The financial sponsor of this research project is Accenture. I would like to thank Stu Babbage for facilitating and managing Accenture's support to this project.

This report is not intended to be the last word on the subject. Readers who wish to discuss and debate aspects are encouraged to do so by preparing either a short commentary or a longer article for the Kokoda Foundation's professional journal, *Security Challenges*. For details on how this can be done, please visit:

<http://www.kokodafoundation.org/journal/New%20Site/author.html>

EXECUTIVE SUMMARY

The Organisation for Economic Cooperation and Development (OECD) describes human capital as 'the fundamental building block for growth strategies in the knowledge-based economy'. The link between human capital and the ability to operate in the knowledge-based economy highlights the increasing impact of globalisation and technology on human productive capacity. Increasingly, human capital development has come to be considered central to national economic progress. However, in a globally mobile and knowledge-based labour market, the stark human capital reality is that Australia needs skilled Australians more than skilled Australians need Australia.

The key points of this report are that:

- The Australian Government is the strategic change agent driving the transformation of Australia's human capital. How effectively government agencies respond to the Government's agenda will determine the future growth, capability and performance of Australia's human capital.
- Through the National Security Statement (NSS), the Government makes a clear link between economic performance, human capital and national security.
- The NSS draws attention to the requirement for Australia to maintain economic competitiveness through 'our fundamental capacity to advance economic prosperity for all Australians', and social resilience through the preservation of 'Australia's cohesive and resilient society and the long term strengths of our economy'.
- Together, international competitiveness and social resilience offer a comprehensive strategic goal for Australia's investment in its human capital.

- Australia must also remain a politically, economically and socially attractive destination for both skilled migrants and young Australians by providing the opportunity for all Australians to work, live and prosper in a secure and democratic country.
- A decline in the stock or flow of Australia's human capital represents a significant danger to national security.
- Externally, globalisation and technology are driving an increasingly open, mobile and global labour market. Advanced and developing nations are confronting significant demographic shifts. There will be significant and complex interplay between these demographic changes that will have ongoing national security implications.
- Internally, Australia's national strategic posture has relied on maintaining a technological edge against credible regional threats to offset a relatively small population. The increasing sophistication of these technologies will ensure that to remain safe Australia's security will be dependent on access to a scientifically and technically literate population.
- Recent assessments show that while Australia's educational system is performing relatively well compared to other OECD nations there are worrying signs of decline.
- The quantitative human capital challenge is to attract and retain sufficient skilled people in a global labour market to remain economically competitive.
- The qualitative challenge is to improve the overall quality of Australia's human capital through improved outcomes in education, health and welfare.
- Australia should adopt an 'inside-out' approach to human capital strategy which acknowledges that long-run national competitiveness and resilience come from

the quality and agility of the 'national administrative system'. It is this system that creates the conditions in which people and business can quickly adapt to changing global conditions.

- The extent to which the 'national administrative system' is fit-for-purpose is more critical to shaping and developing Australia's future human capital than any single short-term policy initiative.
- The concern is that the existing 'national administrative system' has reached the limits of its ability to address Australia's future human capital challenges.
- It may be necessary to rethink the relationship between human capital strategy, policy, administration and delivery in order to maintain the security advantage that Australia has established through its significant investment in human capital.
- The current economic crisis may temporarily mask the more immediate human capital challenges Australia is facing. However, there is considerable weight in the trajectory of demography, globalisation and technology that will remain undisturbed by current events. Consequently, there needs to be a stronger focus on the persistent future of Australia's human capital.

The recommendations of this report are in two parts.

The first part addresses the need to reform the 'national administrative system' in order to improve Australia's overall human capital outcomes. In particular, it is recommended that a Senior Executive in the Department of Prime Minister and Cabinet be appointed as the focal point for collaborative leadership on the Australian Government's human capital objectives. The strategic focus would be on maximising Australia's international competitiveness and social resilience through innovative human capital policies. This position would

coordinate the integrated reform of government service delivery, lift productivity and participation through a sustained investment in human capital, and foster a 'culture of innovation' in Australia's approach to human capital development.

The second part addresses the need for the national security community to develop and implement a comprehensive 'Human Capital Strategy'. It is recommended that the National Security Advisor be an advocate for reform in the national human capital system as well an activist in reforming the human capital practices within the national security community. Specific activities that apply to the national security community include:

- understanding the place of human capital in the National Security Reform Agenda;
- conducting an audit of human capital policy, administration and delivery in the national security community; and
- working to release human capital capability with technology.

ACKNOWLEDGEMENTS

The Kokoda Foundation wishes to thank Accenture for its generous sponsorship of this research. Accenture's strategic insight, financial assistance and sustained encouragement made this research possible.

The Kokoda Foundation also wishes to acknowledge the substantial research, organisational and administrative assistance provided during the course of this research by Jacobs Australia.

ABOUT THE AUTHOR

DAVID SCHMIDTCHEN

David is the Head of Innovation at Jacobs Australia where he is responsible for leading Jacobs' service innovation strategy. He is a strategic management consultant to public and private sector clients on technology integration, organisational design and social resilience.

David has written three books on workforce issues and organisational culture in the Australian Defence Force. His most recent work, *The Rise of the Strategic Private*, examines the impact of technology-driven change on organisational design.

David is a Visiting Fellow at the Australian Defence Force Academy School of Business. His academic interests include technology and work, organisational design, innovation and education.

CONTENTS

	Page
Preface	i
Executive Summary	iii
Acknowledgements	vii
About the Author	viii
Contents	ix
The Human Capital Challenge	1
Australia's Demographic Trajectory	22
Human Capital Growth and Development	40
The Human Capital System	56
Conclusions and Recommendations	78
About the Kokoda Foundation	87

THE WEALTH OF A NATION PREPARING AUSTRALIA'S HUMAN CAPITAL FOR 2030

The Human Capital Challenge

ABOUT THIS PROJECT

In the December 2008 National Security Statement the Australian Prime Minister, Kevin Rudd, highlighted the importance of regional demographic change to the country's future security:¹

Demographic changes will also affect the region with total population exceeding four billion by 2020, or 56 per cent of the world's total. The demographic changes in our region will mean that by 2020 when we look to our north, we will see a very different region to the one we see now – one where population, food, water and energy resource pressures will be greater than ever before.

In the coming years, some regional neighbours will experience a pronounced 'youth bulge' that will provide a stimulus for rapid economic growth while others will struggle to manage the clash between the benefits of participating in an open global marketplace and the desire to maintain traditional social policy.² Australia must be prepared to move deftly through difficult regional economic, demographic and security terrain to deal with the challenges of a daunting future security environment.

¹ Address by the Prime Minister of Australia to the Australian Parliament, The Hon. Kevin Rudd MP, 'The First National Security Statement', 4 December 2008.
<http://www.pm.gov.au/docs/20081204_national_security_statement.pdf>.

² Allan Behm, *Strategic Tides, Positioning Australia's Security Policy to 2050*, 2007.

Traditional national security conversations tend to drift toward consideration of Australia's strategic position relative to other regional nations, the strength of the alliance with the United States, and the military or intelligence capabilities that might be needed to secure Australia's future. Such discussions follow well-worn paths and sketch out familiar solutions.

This paper takes a different direction. The guiding question for the discussions that shaped this project was: how can Australia maximise its global competitiveness and resilience through innovative human capital policies?

While this guiding question does not have the usual directness in matters associated with Australia's national security, the quality and utility of Australia's human capital is central to every aspect of its national security. Human capital manifests in the national demographic structure; in the ability of Australians to participate in the national economy through their intellectual and physical efforts; and in the competitiveness and resilience that Australia will need as it deals with the future security environment.

The World Bank broadly defines human capital as 'the productive capacity embodied in individuals'.³ Similarly, but more generically, the Organisation for Economic Cooperation and Development (OECD) describes human capital as 'the fundamental building block for growth strategies in the knowledge-based economy'.⁴ The OECD's link between human capital and the ability to operate in the knowledge-based economy highlights the increasing impact of globalisation and technology on human productive capacity. Increasingly, human capital development has come to be

³ World Bank, *Where is the Wealth of Nations: Measuring Capital for the 21st Century*, Washington, D.C., 2006, p. 89.

<http://siteresources.worldbank.org/INTEEI/214578-1110886258964/20748034/All.pdf>.

⁴ OECD, *Micro Policies for Growth and Productivity: Final Report*, 2005, p.9. <http://www.oecd.org/dataoecd/40/58/34941809.pdf>.

considered central to national economic progress.⁵ Borderless labour markets access low- and high-level skills wherever they can be found. Those skills that are of central importance to the knowledge-economy will be the ones most in demand and best compensated.

The quality of Australia's human capital has come under increasing scrutiny in areas that are likely to be of serious concern to those planning Australia's long-term security. The focus on the ageing population, education, fertility rates and immigration all represent long-term concerns about the quality and availability of Australia's human capital. However, an important, but often overlooked, point is that the long-term quality, competitiveness and resilience of Australia's human capital are bound to the 'health' of the administrative and social systems that create, nourish and expand it: education, health, welfare, innovation, technology and infrastructure. These largely administrative systems work to enable the further development of the Australian economy, and thereby contribute to national security. Equally, they can work to constrain that development and detract from national security.

The Australian Government has outlined ambitious and distinct policy agendas for both national security and human capital. However, through the National Security Statement, it also makes a clear link between economic performance, human capital and national security. There is an explicit focus on economic competitiveness through 'the maintenance of our fundamental capacity to advance economic prosperity for all Australians', and social resilience through the preservation of 'Australia's cohesive and resilient society and the long term strengths of our economy'.⁶

⁵ Tomas Korpi and Michael Tahlin, 'Skill Mismatch, Wages, and Wage Growth: Overeducation in Sweden, 1974–2000', SE-106 91, Sweden: Swedish Institute for Social Research (SOFI), Stockholm University, 2006.

⁶ Address by the Prime Minister of Australia to the Australian Parliament, The Hon. Kevin Rudd MP, 'The First National Security Statement', 4 December 2008.

The policy framework for both Australia's national security and human capital development outlines a set of integrated and expanded policy outcomes that are beyond the capacity of any one government department to effectively deliver. However, only the National Security Statement has been accompanied by an equally progressive administrative reform to support its implementation. This stands in stark contrast to an absence of holistic administrative reform in the human capital domain.

The National Security Advisor (NSA) was appointed specifically to ensure that the national security policy agenda is translated into administrative action and outcomes. In contrast, there is no comprehensive strategy statement for developing Australia's human capital. The strategy is implicit in the combined effects of individual initiatives in education, health, welfare, and immigration. Similarly, there is no person or organisation responsible for improving coordination or providing a focus for the national administration and implementation of the Australian Government's human capital reform agenda. The responsibility is fragmented across a number of Ministers and departments. The Deputy Prime Minister and the Council of Australian Governments (COAG) commend themselves as focal points of activity; however, many policy and delivery gaps remain that could lead to under-performance or failure.

The challenge in avoiding a trajectory that results in a worsening of Australia's human capital has less to do with aspirational statements about the future and more to do with the practicalities of closing the gap between policy and administrative performance. To deliver the human capital that Australia will need to remain competitive and resilient in the future will require a substantial, long-term and sustained commitment to reforming the 'national administrative system' that will deliver the Australian Government's expected outcomes. This reform should acknowledge that, far more than it has in the past, government administration and delivery

reflects the structure of policy. Indeed, the feedback between policy and delivery is faster and more direct than ever before.

This report shows that Australia's national security discourse needs to re-consider the importance of maintaining a vibrant human capital base as a source of national strength. It explores the strength and fragility of Australia's human capital but with an emphasis on the potential gap between policy aspiration and administrative delivery. Finally, it identifies the principles of the emerging 'human capital system'. This is not the usual narrative for national security. It acknowledges the direct link between national security and human capital but concentrates more on the national security community's interest in long-term human capital policy and delivery.

AN INSIDE-OUT STRATEGY

Australia's economic performance, human capital and national security are intrinsically linked. In fact, human capital is the lynchpin. National security is at its core a human capital issue, the economy is a human capital issue, the environment is a human capital issue – in short, it is difficult to identify a contemporary economic or security risk that does not have an accompanying human capital question as its central theme.

A decline in the stock or flow of Australia's human capital represents a significant danger to national security. The threats are clear. Externally, globalisation and technology are driving an increasingly open, mobile and global labour market. Advanced and developing nations alike are confronting significant demographic shifts. Moreover, there will be significant and complex interplay between these demographic changes that will have ongoing national security implications. Internally, Australia's national strategic posture has been reliant on maintaining a technological edge against credible regional threats to offset a relatively small population. The increasing sophistication of these technologies will ensure that to remain safe Australia's security will be increasingly dependent on access to a scientifically and technically literate

population. The challenge to sustain the security edge that Australia has maintained to date is daunting. For instance:⁷

- Currently 170000 people join the workforce each year; by 2020 that number is expected to fall to 125000.
- Over the next 10 years Australia will need 240000 additional tradespeople beyond the nation's current training output.
- One in five young people are not completing year 12 or its vocational equivalent.
- Forty-five percent of year 12 students are not studying any science or advanced mathematics.
- Defence expenditure on acquisition and sustainment will increase by 20 percent to \$91 billion over the next 10 years. This means that defence industry will need 12000 additional engineers and tradespeople in the next decade – 8500 are required by 2011.

Importantly, this is a challenge that too few in the national security community have been willing to address directly. The challenge is large, complex and discontinuous. It is not a uniquely 'national security' problem nor is it amenable to a 'national security community' solution pursued in isolation of other agencies. It will require greater understanding, adaptive management and interconnected actions across government to ensure that Australia has the human capital necessary to ensure its national security.

In this environment, Australia must remain alert to the current and potential threats to its human capital. Broadly, these threats are of two types: quantitative and qualitative.

The quantitative challenge is to attract and retain sufficient skilled people in a global labour market to remain economically competitive. The qualitative challenge is to

⁷ Speech by the Chief of the Army, Lieutenant General Ken Gillespie, AO, DSC, CSM, Skilling Australia Conference, Darling Harbour, 2 April 2009.

improve the overall quality of Australia's human capital through improved outcomes in education, health and welfare. To achieve this, Australia must remain a politically, economically and socially attractive destination for both skilled migrants and young Australians by providing the opportunity for all Australians to work, live and prosper in a secure and democratic country.

The core contention of this paper is that Australia's human capital strategy must be based on an inside-out design. There is little value in aggressively targeting skilled migrants or designing simplistic short-term strategies to retain Australia's young professionals if Australia is not considered an innovative, progressive and productive society. The recent economic contraction has demonstrated the volatility of short-term human capital policy and delivery. For instance, in response to the global financial crisis, the Australian Government recently cut the permanent skilled migration program by 14 percent in the financial year 2008-09. This cut followed earlier increases of 6000 places in 2007-08 and 31000 places in 2008-09. The immigration program, designed during a period of strong economic growth and a real skills crisis, has been adjusted to suit the times. Other countries are adopting a similar approach by imposing tougher restrictions on immigration as unemployment rises. The national discourse on skills shortages also seems to have evaporated in the heat of the global financial crisis. Nevertheless, as the human capital challenges facing the Defence Department show, the problem remains just below the surface of the more immediate economic concerns.

The inside-out principle starts the design of Australia's human capital strategy with the idea that long-run national competitiveness and resilience come from the quality and agility of the 'national administrative system'. It is this system that creates the conditions in which people and business can quickly adapt to changing market conditions. In Australia, the challenge for governments at all levels (but the Australian Government in particular) is to maintain a progressive human

capital policy agenda that is accompanied by an equally progressive administrative reform agenda that ensures the policy outcomes are delivered quickly and effectively. The extent to which the 'national administrative system' is fit-for-purpose is more critical to shaping and developing Australia's future human capital than any single short-term policy initiative. The concern is that the existing 'national administrative system' has reached the limits of its ability to address Australia's human capital challenges. Indeed, it may be necessary to rethink the relationship between human capital policy, administration and delivery in order to maintain Australia's national security advantage.

At micro-level, this same type of reform is necessary within the elements of the national security community. For example, the sustainability of the Navy's submarine force is entirely dependent on attracting and retaining a skilled force of submariners. The Navy's recently well-publicised shortfall of submariners is an example of recurring shortfalls in critical technical categories across the Australian Defence Force (ADF).⁸ The well-worn Defence Department response to such skills shortages is to offer retention bonuses, reduce deployment times, train faster, offer better conditions, and increase recruiting (both in Australia and overseas). These traditional management levers have failed to address similar personnel shortfalls in the past because they do not address the deeper structural and cultural problems that are the source of skills shortages in the ADF. There is a gap between human capital strategy, policy, administration and delivery in the Defence Department that reflects a broader national need for a more innovative approach to human capital issues. To improve the human capital outcomes that will enable improved security, the NSA must be an advocate for reform in the national human capital system as well an activist in reforming

⁸ The Navy's response to the Submarine Workforce Sustainability Review is available at http://www.navy.gov.au/Publication:Submarine_Workforce_Sustainability_Review.

the human capital practices within the national security community.

An example of the benefits of an inside-out strategy can be seen in the economic and administrative reforms that provided the foundation for Australia's growth through the 1990s. As the Chairman of the Productivity Commission, Gary Banks, observed recently:

Reforms to the conduct of monetary and fiscal policy have been crucial in restoring the basis for stable progress. But the reforms that impacted more directly on the behaviour of businesses, workers and consumers were arguably most influential in the productivity-fuelled growth of the 1990s.⁹

The efficiency of the public service, the flexibility of labour markets and a more coordinated approach to promoting competition across traditional national boundaries was the source of Australia's rising international economic competitiveness throughout the 1990s. Mr Banks sees the emphasis of the new National Reform Agenda on human capital as a natural extension of these earlier economic reforms.¹⁰ Consequently, an essential element of the way-forward is to establish a coherent framework for developing whole-of-government approaches for addressing human capital. A human capital framework that includes commonly understood strategic concepts, operational principles, relationships between agencies, and roles and responsibilities would help determine how best to coordinate and synchronise policy and administrative efforts. This approach increases the opportunities to create shared human capital goals across all levels of government but is also likely to foster the relationships that are central to policy, administration, delivery and innovation.

⁹ Gary Banks, 'Riding the Third Wave: Some Challenges in National Reform', Presentation to the Economic and Social Outlook Conference Melbourne, March 2008.

¹⁰ *ibid.*

In contemplating the under-performance and failure of the administrative system it is not difficult to see the dimensions of Australia's worst case human capital scenario:

- Australia continues to fall down the OECD educational 'league table' in reading, mathematical and scientific literacy as regional neighbours continue to rise. The decline affects all levels of the educational system reducing the overall quality of Australia's human capital stock.
- Australia is no longer an attractive educational destination for overseas students or skilled migrants, which decreases Australia's opportunity to 'top-up' the population with skilled workers.
- There is decline in Australia's science and technology capabilities as a result of underinvestment in the knowledge economy capabilities, which leads to reduced international competitiveness.
- The Australian Diaspora, populated predominately by professionals with key skill sets, migrate to the locations of greatest opportunity. Increasingly, Australia struggles to both attract new skilled immigrants and retain its own talent resulting in an overall loss scientific and technical skill.
- The declining quality of professional education contributes to a significant decline in key human capital development areas: education, health and welfare. In particular, there is reduced coverage, uneven quality and increasing stratification in Australia's social systems that further magnifies the demographic challenge.
- The decline in working-age population reduces productive capacity and efforts to reform are left until too late.
- Reduced performance, support and opportunities see many larger corporations relocate to more vibrant

regional centres to capitalise on the access to skilled labour, including Australians working overseas.

- Australia's overall decline reduces national morale and social resilience which amplifies the effects of national psychological and physical shocks such as global economic effects and natural disasters.
- Australia is no longer able to provide for its own national security.

Equally, it is not difficult to see a vibrant, prosperous and attractive Australia that is agile, confident and competitive in the global marketplace, and secure in its place in the world. Australia stands at a fork-in-the-road in the development of its human capital. It is a time when seemingly small decisions may have large effects. It is a time for a long-term focus. It is time to align human capital strategy, policy, administration and delivery.

If Australia is to take a different approach it must change the nature of its discourse about human capital issues. Australia's leaders must move from a descriptive discussion of fertility rates, migration, ageing and skills shortages to a strategic discussion about Australia's human capital strategy and policy. While it is clear that one provides the platform for the other, there is a risk that Australia's ability to develop effective human capital policy could be paralysed by a failure to move beyond analysis to the implementation of improved policies. The conversation must move beyond description to resolving strategic questions and taking strategic action.

THE DISLOCATING EFFECT OF GLOBALISATION

The global forces reshaping Australia's economic and security environment are dislocating its traditional approach to addressing human capital issues. The growing interest of security analysts in demographics (a subject that would once have been dismissed as 'soft') is a sign of emergent recognition of the interdependence between the quality of a nation's human capital and other domains of government

business. It is also recognition that national human capital can no longer be assumed away as a stable factor in planning and policy development. The effects of falling fertility rates, ageing and workforce shortages are now key planning considerations across government and industry. However, the Australian Government's capacity to respond is dictated by the way it allocates authority, responsibility and accountability in its administrative systems. Australia's administrative leaders are conditioned to see the issues and take action in a reactive and isolated way without full appreciation of human capital as a key and strategic variable. The impetus to change this behaviour will not come from within the administrative bureaucracy. The Australian Government is the strategic change agent that will drive the need for greater bureaucratic flexibility and adaptability in response to increasing global synchronisation and integration.

This change is already underway as Ministers increasingly expect the bureaucracy to engage in collaborative problem solving, synchronise government service delivery, access expertise regardless of location, and foster agility in accepting expanded roles and tasks. The recent appointment of the National Security Advisor (NSA) acknowledges that there is an increasing need for collaborative leadership across the security community. The increasing complexity of the roles and tasks, the increased information flows, the growing interdependence across government, and the high operational tempo require stronger coordination, and more effective policy direction and communication. These same forces are shaping the need for administrative change in addressing Australia's future human capital. To respond effectively, administrative leaders will need an effective conceptual model of human capital in order to form and implement clear strategic policy.

GLOBAL FINANCIAL CRISIS—2008-2009

At the time of writing this paper, the shadow of the global financial crisis is deepening over Australia. The International Monetary Fund has downgraded world growth forecasts,

China's growth has slowed significantly, global businesses are shedding jobs and the Australian Government is preparing to release a third economic stimulus package. A widespread loss of confidence may paralyse investment and undermine confidence in longer term activities.

The economic crisis has exposed the fragility and tensions within the global economic system and its tendency not to take action until the problem assumes the mantle of 'crisis'. The urgency of this crisis has markedly challenged conventional assumptions about pre-existing policy issues, relationships and responses. However, there are crucial differences between the Australian Government's ability to anticipate and manage the economic crisis and its ability to manage Australia's emerging human capital challenges. The contextual similarities are that:

- The human capital challenges are well documented and widely understood, as were the global economic ones.
- There is some acceptance that the existing systems for building and sustaining human capital are under stress in the much the same way as the economic system is under stress.

There are also some marked differences:

- Even though the problem is well understood the architecture of an integrated response to Australia's human capital challenges is not clear.
- Even though there is some acceptance of increasing stress in the human capital system, there is no sense of urgency to take action despite the acknowledged long lead times for policy effect.

When the economic crisis recedes, government and business will find that the same human capital challenges remain. Indeed, they will have assumed greater urgency on account of having been deferred while the more immediate issues are managed. There is a possibility that as business

and government increase individual and collective productivity by shedding the excess of the 'good times' and the market redistributes labour, Australia may believe the human capital issues are solved. Unfortunately, there is considerable weight in the trajectory of demography, globalisation and technology that will remain undisturbed by current events. Consequently, there needs to be a stronger focus on the persistent future of Australia's human capital, as outlined in this paper.

PEOPLE AS CAPITAL

'Human capital' has become a fashionable cliché of managerialism. Advocates use it to draw attention to the intangible assets of organisational or national capability. Opponents argue that it is a demeaning accounting term that reduces people to interchangeable 'capital' goods. It serves to flatten the variability and creativity of human intellectual and physical effort in their contribution to capability.

As a concept, human capital was largely dormant until, in March 1961, economist Theodore W. Schultz, reinvigorated the idea in the *American Economic Review*. Schultz argued that while economists knew full-well that investment in the productive capacity of people was the distinctive feature of economic growth, they were timid in approaching the topic. He explained that:

Whenever they come even close, they proceed gingerly as if they were stepping into deep water. No doubt there are reasons for being wary. Deep-seated moral and philosophical issues are ever present. Free men are first and foremost the end to be served by economic endeavor; they are not property or marketable assets...The mere thought of investment in human beings is offensive to some among us. Our values and beliefs inhibit us from looking upon human beings as capital goods...¹¹

¹¹ Theodore Schultz, 'Investment in Human Capital', *The American Economic Review*, vol.2, no. 1, 1961, p. 2.

Setting aside thoughts that the idea of human capital corrupted or undermined the value of people, Schultz went on to outline an intellectual framework for human capital. In doing so, he fashioned the idea of accounting for people in the same way as investments in plant and machinery. In December 1961, the *Exploratory Committee on Capital Investment in Human Beings* was held in New York. The committee members included Theodore Schultz, Gary Becker and Robert Solow. The ideas of these future Nobel Laureates in economics continue to shape today's academic debate on human capital. Consequently, much of the thinking about human capital continues to focus on the organisation or the firm as the basic unit of analysis.

However, in the last five years, national human capital has emerged as a major political issue. While education is now the primary vehicle for conversation the broader debate continues to reflect the dominance of economic models of human capital.

A HUMAN CAPITAL REVOLUTION

In 2003, Tony Blair declared that 'in the economy of the 21st century, knowledge - human capital - is the future...'.¹² In 2007, in his first major policy speech as leader of the Australian Labor Party, Kevin Rudd highlighted the link between long-term prosperity, productivity growth and investment in human capital as the basis for an education revolution in Australia. Throughout 2008, the Rudd Government vigorously pursued this policy. In January 2009, President-elect Barack Obama delivered a major address to introduce his 'American Recovery and Reinvestment Plan', an economic stimulus package worth \$US775 billion. Part of this investment would go to updating and modernising American schools. He reasoned that this would help the United States to not only reduce the impact of the emerging global economic crisis but also avert a coming 'human capital crisis'.

¹² 'Top-up fees will stay', 30 September 2003.
<<http://www.telegraph.co.uk/news/1442862/Top-up-fees-will-stay.html>>

In politics, the ideas of human capital and education have become so closely entwined that they are often used interchangeably. What is billed as a 'human capital revolution' is mostly an 'education revolution'.¹³ And while education may be an important factor in developing national human capital, it is not the only factor. The concept of human capital seems bound by education such that it narrows thinking and reduces the options to consider or express a broader strategic goal beyond education.

In firms, the notion of human capital has moved away from a view of people as an economic input to one of people as a significant contributor to overall organisational performance. The better companies focus on investing in human variability and adaptability in order to develop organisational capability. Skills training and education are a large component of this investment but it also includes innovation, leadership, health and wellbeing. Complementing this expanded view of the workforce has been the greater sophistication of talent management and strategic workforce forecasting and planning techniques. In global organisations, reflecting the borderless labour market, the focus is now on how to access, develop and manage the talents of a global workforce. For these firms, exposure to a hostile and competitive market place has highlighted the importance of organisational agility as an important outcome of investing in people. They have 'discovered' that it is the workforce's capacity to adapt, integrate and learn that provides the vital buffer against marketplace uncertainty but also that workforce capability is renewable and flexible.¹⁴

¹³ Brian Keeley, 'Human capital: A revolution?', OECD Observer, No. 261 May 2007.

¹⁴ Arthur Stinchcombe, *Information and Organizations* (California Series on Social Choice and Political Economy), University of California Press, Berkeley, 1990, pp. 33 - 72.

The renewed political interest and the experience of global business highlight a strong desire for the same set of human capital capabilities. They want to maximise the intangible benefits of each person's individual and collective actions. They want the flexibility and creativity that comes with people as they find a path through complexity; manage the risks of uncertainty; and adapt to rapidly changing environments. In some areas of government as diverse as social policy and national security, this desire has been expressed through a renewed interest in social or organisational 'resilience'. Resilience in human systems can be defined as: the capacity of a system to absorb a disturbance and reorganise while undergoing change.¹⁵ The disturbance results in change but does not undermine the fundamental identity of the overall system.

Together, social resilience and international competitiveness offer a comprehensive strategic goal for a nation's investment in its human capital. Importantly, these goals also resonate with the traditions of the idea.

A NATIONAL HUMAN CAPITAL DIVIDEND

Adam Smith's *Wealth of Nations* examined the division of labour as the main cause of prosperity. He identified human capital as one of the four types of fixed capital that offers a revenue or profit to a firm (or nation) without the need to add value through distribution. Smith's work provides the framework for today's understanding of human capital. Essentially, it is the stock of skills and knowledge required to work and achieve productive value. It forms an adaptable and valuable part of a firm's productive capacity and capability.

¹⁵ Brian Walker, C.S. Holling, Stephen Carter, Ann Kinzig, 'Resilience, Adaptability and Transformability in Social-ecological Systems, *Ecology and Society*, Vol. 9, No. 2, 2004, <<http://www.ecologyandsociety.org/vol9/iss2/art5>>.

Scotland has a long history of public investment in education, establishing the first public education system in Europe, which significantly improved the stock of Scotland's human capital. In so doing, Scotland, once one of the poorest nations in Europe, became the home for a vibrant and practical intellectual community that could confidently lead economic engagement with the British Empire and Europe.

Adam Smith was a beneficiary of this investment, receiving a solid elementary education and, by the age of 14, attending Glasgow University as a pupil of the moral philosopher Francis Hutcheson. He was part of a thriving intellectual community in a nation that was beginning to reap the benefits of a long investment in its people.

Australia has a history of free, compulsory and secular education that has been central to its development. The elements of Australia's early investment in human capital were the need to service a rapidly dispersing and increasingly isolated immigrant population. While the drivers behind the investment in Australia's people differed from those in Scotland and other nations, the result was the same. Hundreds of one-teacher schools were established in rural locations, with an emphasis on instruction in practical subjects. Between 1852 and 1890, Australia had established universities in Sydney, Melbourne, Adelaide and Hobart.

Henry Parkes highlighted that Australia's education system positioned young Australians to contribute to society:

Instruction is given not only for the benefit of the children but also for the society hereafter. It seeks to secure sound primary instruction to all as the basis of character and at the same time to familiarize the children with each other, so that whether they are rich or poor they feel themselves members of the same human family and responsible members of society.¹⁶

¹⁶ *ibid.*, pp.287-88.

In the early history of Scotland and Australia, the focus of investment in national human capital was on providing the educational basis for making a practical contribution to the economy through increased productivity and also to provide the foundations for a good society. In both areas, education was a vehicle for advancing human capital but the desired outcomes were more pervasive.

The Deputy Prime Minister, Julia Gillard, has also made a clear connection between resilience in times of crisis and the importance of Australia's human capital.¹⁷ In outlining the Australian Government's response to the Global Financial Crisis, she highlighted the importance of national institutions that have emerged from previous crises that now provide Australia with greater resilience. In particular, the strength of Australia's taxation and banking systems, social and health systems, immigration and higher education services all provide Australia with the capability to respond to the current crisis. This is the resilience that comes from the stability, efficiency and effectiveness of the Australian Government's administrative systems. Accordingly, Ms Gillard highlighted the Australian Government's commitment to its 'Education Revolution' in facilitating the labour market adjustment to the new economy position as critically adjusting Australia's response to the crisis.

While the 'Education Revolution' is a valuable and necessary aspect of Australia's immediate response to the Global Financial Crisis, broader conversations about human capital and resilience remain captive to an economic perspective on the problem. This is an 'engineered' approach to resilience that focuses on efficiency, constancy, predictability and fail-safe design.¹⁸ Consequently, the key

¹⁷ The Hon Julia Gillard MP, 'A Resilient Australia', Address to the Sydney Institute, 19 February 2009, <http://www.deewr.gov.au/Ministers/Gillard/Media/Speeches/Pages/Article_090220_085242.aspx>

¹⁸ C.S. Holling, 'Resilience and stability of ecological systems', *Annual Review of Ecology and Systematics*, vol. 4, 1973, p. 1-23.

measures of success are the quantum of Australia's investment in accumulated education, skills development or employment figures. The alternative 'ecological' view focuses on effectiveness, change, capacity to manage uncertainty and adaptive design. This view allows for the overlooked and difficult-to-quantify part of the economic models of human capital and resilience. For instance, the role of relationships—family and community—and national institutions as social forces that foster, encourage and shape the development of human capital and influence the deployment of human capital. In this frame, the psychology and sociology of individuals, families and communities as well as the culture and climate of government agencies become central to discussions about human capital. This approach may offer more complete understanding of Australia's strength and capacity to adapt to a changing global environment without fragmenting its traditional strengths.

A BROADER HUMAN CAPITAL AGENDA

Human capital is more than education and economics. It is built and sustained through the Australian Government's formal policy, administrative and delivery systems.

The Australian Government has approached the task of improving Australia's human capital on a broad front that includes education, social inclusion, technology, infrastructure and national security. Delivering on the detail of this ambitious program will require leaders and administrators to rethink how policy and programs across portfolios and levels of government can work together. It may also require a change in the Australian Public Service (APS) governance structures, skills base and organisational capability.

At the strategic level, there is a need for a clear goal and agenda that more appropriately repositions the debates over education and economics into a larger discourse on human capital. Today, agency accountability frameworks are often applied in a way that focuses too much on tactical and immediate outputs and lower-level indicators rather than

achieving strategic or shared policy outcomes. Consequently, the program of activity that is pursued, though worthwhile and important, is unlikely to result in innovative administrative or delivery strategies without human capital as its centrepiece. The strategic goals should be national competitiveness and resilience rather than the operational economic outcomes of productivity and participation. As noted earlier, there are few issues that Australia faces that are not in some way dependent on the quality of the nation's human capital. The strategic policy focus should be on the human capital outcomes the Australian Government values and provide scope to develop integrated policy outcomes and achieve shared strategic objectives.

While the descriptions of Australia's human capital challenges have become more elegant, specific elements of a national approach to solving it are less clear. Consequently, there is a growing risk that Australia's strategic and operational response to the human capital challenge will be uncoordinated, partial and internally competitive.

Australia's Demographic Trajectory

GLOBAL LABOUR MARKET SYNCHRONISATION

The 2008-09 global financial crisis has highlighted the increased synchronisation among the world's economies; in turn, this synchronisation highlights the extent of global economic integration that has occurred over the past two decades. While integration has lifted the economic growth of many countries, it has also increased their dependence on the international economic environment. In particular, the dependence of the global economy on the United States is a striking feature of today's world economy.

The response of the major economies to the crisis may not have been synchronised but it has been coordinated in terms of the intent of the response and the stimulus delivery mechanisms. In December 2008, the Managing Director of the Institute for International Finance, which represents 375 of the world's major banks and financial institutions, commented that this 'is a globally synchronized recession, it requires a globally coordinated approach. We have seen some indications and recognition of that, but not enough'.¹⁹ The question is whether the synchronisation is symmetric; and whether this symmetry can be harnessed during the upturn to ensure a broad worldwide recovery, especially if it is not led by the US.

Synchronisation and integration are also key features of the global labour market. Media reporting on the progress and fallout from the global financial crisis noted a seven percent increase in the number of highly skilled expatriate Australians heading home.²⁰ However, the impact of the financial crisis on the Diaspora has not been limited to Australia. The economies

¹⁹ The Economic Times, 18 December 2008.

²⁰ Rob Taylor, 'Global financial woes have Aussies heading home', 2 December 2008, <<http://www.reuters.com/article/ousiv/idUSTRE4B11OB20081202>>

of many developing nations depend heavily on the remittances they receive from a substantial Diaspora.

The growing size and importance of remittances to developing economies is an indicator that the same forces shaping the synchronisation and integration of the global economy are also shaping the global labour market. A recent study by The World Bank found that for 2007, not including informal channels, 'recorded remittances flows worldwide are estimated at \$318 billion, of which \$240 billion went to developing countries'.²¹ India, China, Mexico, the Philippines, and France are the top recipient countries of recorded remittances while rich countries, in particular the United States with \$US42 billion in outflows, are the main source of remittances. Consequently, a global economic downturn triggered in the United States can have a disproportionate impact on smaller countries heavily dependent on expatriate remittances.

This section examines Australia's standing in relation to the broad indicators of economic performance and comparative demographics. This is not intended as a thorough comparative economic or demographic analysis but rather as a general reference to important trends, and underlying themes in fertility, ageing and migration.

FERTILITY

Australian Bureau of Statistics has revealed that 285200 babies were born in Australia in 2007, which surpassed the previous highest year, 1971.²² First-time mothers accounted for 43 percent of the births, while a third were to women having their second child. Since 2001, Australia's total fertility rate has moved from its nadir of 1.73 in 2001 to approximately 1.93 today. The rate remains considerably below the baby

²¹ The World Bank, 'India Top Receiver of Migrant Remittances in 2007, Followed by China and Mexico', 31 March 2008.
<<http://mexidata.info/id1770.html>>.

²² Australian Bureau of Statistics, Publication 3301.0 - Births, Australia, 2007.

boom of the 1950s and 60s where the average was around 3.5 births per woman. A recent Productivity Commission report concluded that 'Australia appears to be in a 'safe zone' of fertility, despite fertility levels being below replacement levels. There is no fertility crisis'.²³

Forecasting national fertility rates has been a notoriously difficult exercise. The sustained decline in fertility from 1976 until 2001, combined with falling mortality, has significantly aged the Australian population. Peter McDonald and Rebecca Kippen noted that, 'if birth rates were the same at each age today as they were in 1973, there would have been 40 per cent, or 100,000, more births in 1998. If death rates at each age were the same today as they were in 1971-76, there would have been 60 per cent, or 78,000, more deaths in 1998. These are remarkable changes within a short period of time'.²⁴

A quick look at the reasons for the uplift in Australia's fertility rate over the past six years highlights the impact of changing social attitudes and context on fertility. In 2005, Peter McDonald, attributed the rebound in Australia's fertility to two factors:²⁵

- the public 'waiting too long' debate surrounding the timing of births within the popular media, and
- supportive public policies aimed at increasing fertility, such as maternity payments.

²³ Ralph Lattimore and Clinton Pobke, *Recent Trends in Australian Fertility*, Canberra, Productivity Commission, July 2008, p xii, <<http://www.pc.gov.au/research/staffworkingpaper/fertility-trends>>.

²⁴ Peter McDonald and Rebecca Kippen, 'The Impact of Immigration on the Ageing of Australia's Population', May 1999, <http://www.immi.gov.au/media/statistics/population/ageing/_pdf/ageing.pdf>.

²⁵ Cited Jeromey Temple and Peter McDonald, 'The Australian Population: A Background Primer', Defence Personnel Environment Scan 2025, Canberra, 2006, pp. 62.

More recently, the Productivity Commission offered three inter-related factors:²⁶

- Buoyant economic conditions combined with greater access to part-time jobs reduced the financial risks associated with child-bearing and lowered the costs associated with exiting and re-entering the labour market.
- More flexible work arrangements allowed women to better combine participation in the labour force with childrearing roles.
- An increase in the generosity of family benefits, though not targeted at fertility, was also considered to have played a part.

The Productivity Commission study argues that the role of maternity payments was 'modest'. Since the primary goal of family payments was to provide income and welfare, they concluded that any effect on fertility was peripheral.

The rebound in fertility is a function of the interplay between social and economic factors. Economic conditions, labour market structure, social expectations and government intervention are all contributing factors to Australia's fertility rate. Consequently, it is difficult to make confident projections about the future trajectory of Australia's fertility rate but given the prevailing social conditions it is unlikely to vary significantly. Despite this, there is no doubt that it should remain a key area of policy interest.

Policy intervention cannot, however, focus just on the overall fertility rate but must target the socio-economic drivers of fertility. Nor should policy-makers draw the popular conclusion that increased labour force participation among women is the cause of low national fertility. A comparison of fertility rates and female workforce participation among

²⁶ Ralph Lattimore and Clinton Pobke, *Recent Trends in Australian Fertility*, 2008, p xii.

European countries shows that those with comparatively lower fertility rates also have lower female participation.

Country	Total Fertility Rate (Average 2000-05)	Female Participation Rate (Average 2000-05)
Italy	1.29	48.46
Spain	1.29	55.13
Denmark	1.76	75.45
Finland	1.75	72.38
Sweden	1.67	76.93
Australia	1.76	66.68

Table 1. Total Fertility and Female Participation Rate²⁷

The relationship between participation and fertility is influenced most by social attitudes toward working mothers and in the effects of policies that reduce incompatibilities between child-rearing and female employment; for example, labour market structure (including flexible hours and part-time jobs), workplace policies and norms that offer employment flexibility, access to childcare, and attitudes of and to working mothers.²⁸ Labour market and workplace policies have a national fertility cost. Policy changes in these areas may have a greater effect on fertility rates than ‘baby bonus’ payments alone.

AGEING POPULATION

Peter Peterson observed that, ‘[F]or nearly all of history, the elderly (people aged 65 and over) never amounted to more than 2-3 percent of the world population, roughly 150

²⁷ Source: OECD, Economic Outlook No 81 - June 2007 - Annual Projections for OECD Countries.

²⁸ For a more detailed study of these issues see Daniela Del Boca, ‘Why are fertility and participation rates so low in Italy (and Southern Europe)?’, October 2003, <http://www.italianacademy.columbia.edu/publications/working_papers/2003_2004/paper_fa03_DelBoca.pdf>.

years ago that share started to rise. Today in the developed world, it amounts to 15 percent. By 2030, the UN predicts that it will be nearing 25 percent and may reach 30 percent in Japan and fast-ageing countries of continental Europe'.²⁹ The developing world will remain much younger for the foreseeable future; however, the effect will be uneven. Some countries (such as India, Vietnam, Indonesia and Malaysia) will have a noticeable youth bulge while others (such as China and Republic of Korea) are projected to reach developed world levels by the middle of this century.³⁰

Total population and the age distribution within populations, have significant strategic significance for Australia as these factors contribute to determining the size and shape of the workforce, the national capacity to support that workforce, and highlight areas of emerging crisis.³¹

The mortality rate in Australia continues to fall while life expectancy continues to rise—overall the population is ageing. Since the 1970s, life expectancy in Australia has risen from 68 to 78 for men and 75 to 83 for women.³² The Intergenerational Reports released as part of the budgets, in 2002 and 2007 raised the profile of Australia's ageing population in government policy.

Early criticism of the Intergenerational Report suggested that the impact of ageing on labour force productivity was underestimated and the impact on future health care costs was overestimated.³³ The real effect of these reports was to establish ageing as part of Australia's national discourse.

²⁹ Peter Peterson, 'The shape of things to come: global aging in the Twenty-first Century', *Journal of International Affairs*, vol. 56, no. 1, pp. 189-211.

³⁰ Jeromey Temple and Peter McDonald, 'The Australian Population: A Background Primer', 2006.

³¹ Allan Behm, *Strategic Tides, Positioning Australia's Security Policy to 2050*, 2007.

³² Source Australian Bureau of Statistics Yearbook, 2008. 1971: Male 68.3 years; Female 67.1 years; 2005: Male 78.5 years; Female 83.3 years.

³³ Steve Dowrick, and Peter McDonald, 'Comments on Intergenerational Report, 2002-03' Australian National University: Canberra., 21 June 2002. <www.sapo.org.au/binary/binary203/Comments.pdf>.

However, like fertility, national ageing is more complex than a cursory glance at the headline figures and broad trends would suggest.

Jeromey Temple and Peter McDonald from the Australian National University argue that population ageing is not one single phenomenon. They point to four distinct aspects of population change—*Numerical Ageing*, *Structural Ageing*, *Timing Effects*, and *Compositional Effects*—that offer a richer framework for understanding the effect of population ageing.³⁴ Broadly, numerical and structural ageing consider the stock and flow implications of the population, whereas the timing and compositional effects consider the planning and social implications of population change.

Numerical ageing refers to the numerical increase in the age of the population, whereas structural ageing refers to increasing proportions of the population becoming 'old'. Structural ageing is a function of falling or low fertility.³⁵ Combined, these two population concepts provide a sense of the ageing problem. For instance, over the next five years, the number of people over sixty-five, and therefore of pensionable age, will more than double from 60000 per year to 140000 per year. But fewer people are entering the workforce, so the growth in working age population will nearly halve over the same period. Consequently, it is expected that more people will require government services in the future and their needs are likely to be more complex.

Figure 1 shows the actual and projected median population age in Australia, China, India and Korea from 1950 to 2050. The timing effects are clear. Korea's rapid ageing is likely to have a significant impact on economic and social conditions. In comparison, Australia's population is ageing more slowly but the acceleration after about 2010 is a cause

³⁴ Jeromey Temple and Peter McDonald, 'The Australian Population: A Background Primer', Defence Personnel Environment Scan 2025, Canberra, 2006, pp. 61-88.

³⁵ *ibid.*, p. 80.

for concern. India's population remains relatively young for a lengthy period which may provide considerable economic benefits; however, the pronounced 'youth bulge' is equally a potential source of social problems unless conditions are carefully managed. Compressed ageing poses different policy problems than a population ageing more slowly. Table 2 shows the timing of ageing across a range of economies in Europe and Asia. In each case, the geographic distribution and the internal mobility of populations are central to understanding their emerging infrastructure and service needs.

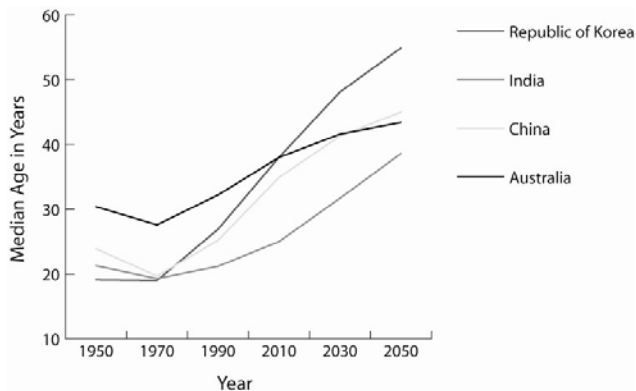


Figure 1. Forecast Ageing in Korea, India, China and Australia

The effect of ageing on social structure is an area that receives less direct attention but which is nonetheless a sub-text of the national conversation. An ageing population has the potential to re-structure the economy, re-shape the family and re-define politics. Under the pressure of reduced labour force growth, the economy may stagnate as the labour force is pulled between servicing economic demand and supporting an older population. Importantly, this is a novel national risk. The changing social structure gives rise to complex economic and social forces that ripple of across Australian society. These forces are central to our concerns about the stress on dual-income parents with young children, the pressures on older

parents and children as carers, the increasing numbers of people living alone, and the medical issues that arise from delaying childbirth. Numerical and structural population shape new social structures that in turn affect people's expectations and behaviour. The aggregated human capital effect is expressed in terms of productivity and participation but also social resilience and mental wellbeing.

Country	1950	1970	1990	2010	2030	2050
Australia	30.4	27.6	32.2	38	41.6	43.4
Canada	27.7	25.9	32.9	40	43.9	45.3
France	34.5	32.3	34.7	40	43.3	44.7
Germany	35.4	34.3	37.7	44.2	48.2	49.4
Italy	29	32.8	37.4	43.8	50.2	50.4
Japan	22.3	29	37.4	44.6	52.1	54.9
United Kingdom	34.6	34.2	35.8	40	42.2	43.4
United States of America	30	28.2	32.8	36.5	39.1	41.1
Indonesia	20	18.9	21.7	28.2	35.4	41.1
Malaysia	19.8	17.5	21.5	26.3	33.2	39.3
Singapore	20	19.7	29.3	40.6	48.3	53.7
Thailand	18.6	17.8	25.1	34.7	41.2	44.3
Vietnam	24.6	18	20.2	26.9	35.8	41.6
China	23.9	19.7	25.2	34.9	41.3	45
India	21.3	19.3	21.2	25	31.7	38.6
Republic of Korea	19.1	19	26.9	38	48.1	54.9

Table 2. Median Age 1950 to 2050.³⁶

³⁶ Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2006 Revision and World Urbanization Prospects: The 2005 Revision*, <<http://esa.un.org/unpp>>.

MIGRATION

In 2007, Australia's population increased by 1.6 percent. Natural increase accounted for 44 percent while net overseas migration (NOM) contributed 56 percent to total population growth in 2006-07 (see Figure 2).³⁷ NOM is used to estimate the net contribution of immigration and emigration to Australia's population. It counts all overseas arrivals and returning Australians who stay in Australia one year or more, including Australian residents who spend one year or more overseas. It also includes categories of temporary migrants that are outside direct government control such as those who enter to provide temporary skills (457 Visas) and students.

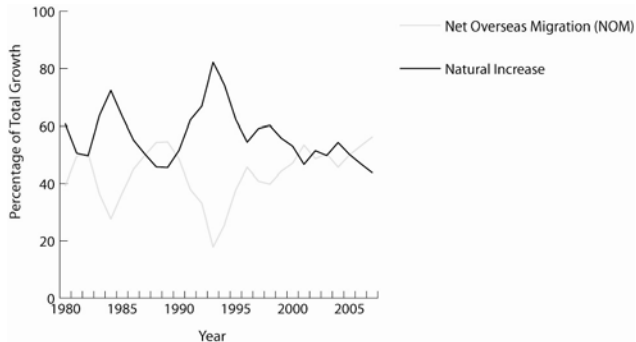


Figure 2. Natural Increase and Net Overseas Migration 1980-2007.

Migration is a key lever in both mitigating Australia's structural ageing and driving population growth but it is not the 'silver bullet' to reverse long-term demographic trends. As with fertility and ageing, the issue is more complicated than it is often portrayed. Timing, geography and composition are all central considerations in understanding the impact of migration on population structure.

³⁷ Source: Australian Bureau of Statistics 3222.0 - Population Projections, Australia, 2006 to 2101, September 2008.

NOM is a major contributor to population growth. GDP per capita is the best way to measure the real economic benefits. Recent modelling by Peter McDonald and Jeromey Temple shows that per capita GDP growth rises quickly as NOM rises from zero to 180000 (see Figure 3).³⁸ However, the effect on per capita GDP growth at a level beyond 180000 becomes marginal. A NOM of 180000, combined with the current fertility rate, would result in a population of around 27 million in 2027 and 33.0 million in 2050. In comparison, a NOM of 260000 would add a further 5 million by 2057 to the population for very little additional economic growth. Consequently, there is a large opportunity cost in being at zero NOM compared with 180000 NOM, and diminishing returns to increases in immigration beyond a NOM of 180000. The differences are that immigration has a smaller impact on age structure as the level rises.

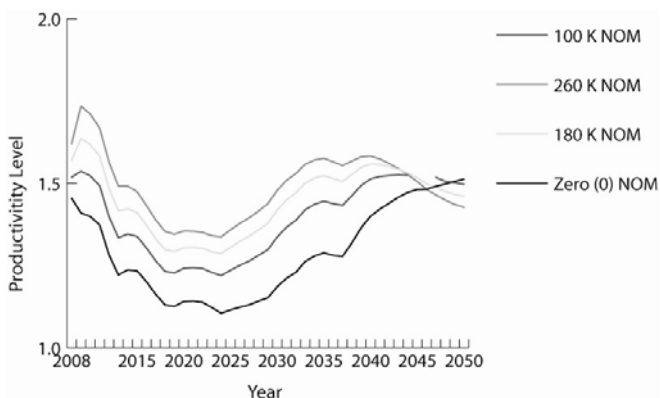


Figure 3. GDP per capita at Zero, 100K, 180K and 260K NOM³⁹

³⁸ For a more detailed discussion of these scenarios see: Peter McDonald and Jeromey Temple, *Demographic and Labour Supply Futures for Australia*, Australian Demographic and Social Research Institute Canberra: December 2008.

³⁹ http://www.immi.gov.au/media/publications/research/_pdf/demo-labour-supply.pdf
ibid.

The migration of an increasing number of Australian professionals seeking to work overseas is a potential demographic 'wildcard' for Australia. While it is not a significant issue at the moment, the increasing global competition for professional skills could see critical technical skill areas moving offshore (notwithstanding the immediate repercussions of the current global financial crisis). This would further intensify the competition for Australian labour and impact on the shape of migration policy. Professor Graeme Hugo has led research on the Australian Diaspora for some time.⁴⁰ The key facts are that:

- over two-thirds of all Australia-born permanent departures and Australian resident long-term departures are managers, administrators, professionals and para-professionals;
- the majority left Australia (in rank order): to pursue better employment opportunities, professional development, higher income, promotion/career advancement; and
- long-term departures were predominately 20-24 years old while permanent departures were between 30-35 years old.

Australia's agility in an increasingly globally synchronised labour market is a looming policy issue, and a sustained period of losing skilled people is surely an unpalatable scenario for policy makers.

⁴⁰ Graeme Hugo, Dianne Rudd and Kevin Harris, *Australia's Diaspora: Its Size, Nature and Policy Implications*, CEDA Information Paper No. 80, December 2003. See also: Michael Fullilove and Chloë Flutter, *Diaspora: the world wide web of Australians*, Lowy Institute Paper 04, Sydney, Lowy Institute for International Policy, 2004.

THE DEMOGRAPHIC FAULTLINE

In a recent KPMG study, *The Global Skills Convergence*, Bernard Salt argues that there is a 'demographic faultline' running through the economies of the developed world. The faultline represents a restriction on the supply of labour and talent in the coming decade.⁴¹ His description of the faultline and its consequences neatly captures the interplay between the demographic, economic and social issues that have been raised so far. The faultline arises from a shortfall in workforce replacement and shows the complicated interaction between familial and cultural generations.

The end of this decade signals the start of a period in Australia where more Baby Boomers (born 1946-1961) will exit the workforce than Generation Ys (born 1976-1991) and Millennials (born 1991-2006) will enter the workforce at age 15. In population terms, the faultline is an expression of population replacement rates, whereby the jump in fertility following World War II resulted in a baby boom in Western nations. This boom ended in the 1960s when technology (contraception) and the accompanying prolonged social change in the role of women in society resulted in a steady decline in Australian fertility rates.⁴² However, in cultural terms, the attitudes, expectations and opportunities of the succeeding generations (in particular Generation Y) are reported as markedly different from their predecessors (the Baby Boomers). Generation Y's entry to the workforce is delayed by longer engagement in education. In turn, this shapes the character of their engagement in the workforce. For example, they may be more selective about the types of

⁴¹ Bernard Salt, *The Global Skills Convergence*, Issues and ideas for the management of an international workforce, KPMG, 2008.
<http://www.kpmg.com/SiteCollectionDocuments/The_global_skills_convergence.pdf>.

⁴² More recently, the Vatican has suggested that another technology – the washing machine – has done more for women than the pill to bring about prolonged social change.

work they undertake, and they are likely to move from job-to-job and career-to-career.

Salt argues that an increasing pool of 15-64 year olds not only continually replenishes the workforce but also maintains the tax base and supports a rising demand for consumer goods and services. In those countries with a declining working age population, the follow-on effects of a dwindling tax base, declining consumer demand, fewer productive workers, and a rapidly ageing population are both economic and social. For the advanced economies of Japan and Italy—where the pool of people from which these countries can draw new entrants to the workforce began to contract in the mid-1990s—the effects are already apparent and likely to be intensified by the current financial crisis (see Figure 4).

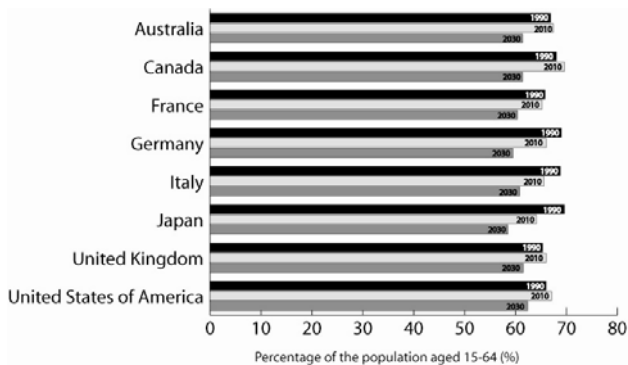


Figure 4. Advanced Economies Change in Working Age Population⁴³

In part, the policy challenge for these countries is to increase labour efficiency by increasing the participation rate⁴⁴, increasing the average hours worked, reducing under-

⁴³ Source: World Population Prospects: The 2006 Revision and World Urbanization Prospects: The 2005 Revision, <<http://esa.un.org/unpp>>.

⁴⁴ An increase in the working age proportion of the population 15 to 64 year olds.

employment or decreasing unemployment or increasing productivity. However, it has also prompted, for instance Italy, to consider the population beyond its national borders. These 3.5 million expatriate Italian citizens are ambassadors for the Italian 'brand' and a great source of national opportunity.⁴⁵ Indeed, the Italian Government allows expatriate Italians to stand as candidates in four expatriate seats in the Italian Parliament. Italy is adapting to the principles of a synchronised and integrated labour market by taking an open, adaptive and 'total' view of its human capital. The governments and central banks of developing economies that are more reliant on remittances of their expatriate population are taking a similar view.

In contrast, Japanese culture limits policy options beyond increasing the efficiency of the existing labour market structure. Japan does not have a history of immigration and its labour force participation is founded on high levels of male participation and low levels of female participation, compared to OECD levels.⁴⁶ Similarly, China's one-child policy is a self-imposed cultural restriction on growth that will, if it remains in place, have a deleterious economic impact on growth. India's less restrictive population policy delays the appearance of a demographic faultline; consequently, India's tax and consumer base will support continued economic growth.

The faultline is an international phenomenon but appears at different times in different countries. For example, in the growth economies of China and Korea, the faultline occurs at around 2015, while in India it does not appear until after 2045. In South East Asia, Singapore shows a similar trend to Australia but with a more significant contraction after 2010. Indonesia, Malaysia and Vietnam continue to sustain new

⁴⁵ See James Panichi, Background Briefing, 'Italian Job', 23 November 2008.

⁴⁶ <http://www.abc.net.au/rn/backgroundbriefing/stories/2008/2422845.htm>
Employment/population ratio (percent): Male – OECD average 2001-2007, 75.38; Japan, 80.52; Australia, 77.73. Female - OECD average 2001-2007, 55.93; Japan, 57.60; Australia, 63.44. Rate of female participation increase 2001-2007: OECD, 2.3; Japan, 2.73; Australia, 4.64.

entrants into the workforce into 2030 (see Figure 5). The trend is similar in the Pacific, where the workforce pool continues to grow in Fiji and Papua New Guinea while it is contracting in the advanced economy of New Zealand. Canada, United Kingdom and the United States follow a similar trajectory to New Zealand, Australia and Singapore, with a decline in working age populations after 2010.

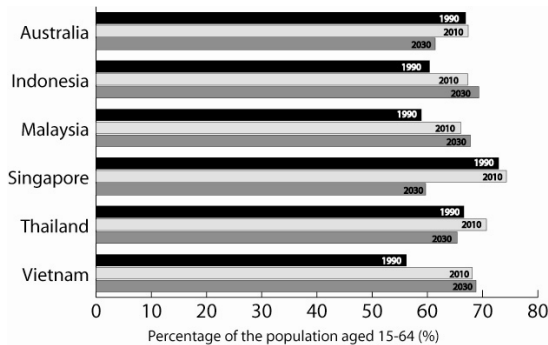


Figure 5. South East Asian Economies Change in Working Age Population.⁴⁷

The national differences in the appearance of the faultline reinforce that while population size is important, understanding the demographic structure of a nation is essential to determining its capacity for economic growth. Importantly, understanding the interaction between these trends both at home and overseas can focus Australia's application of soft power. Noting the significant youth bulges in the demographics of many regional neighbours might allow Australia to pursue policies that focus on the developing opportunities for the young and hopeful. Australia could make a significant contribution to the region by establishing the infrastructure that supports regional human capital development and mobility.

⁴⁷ Source: World Population Prospects: The 2006 Revision and World Urbanization Prospects: The 2005 Revision, <<http://esa.un.org/unpp>>.

IMPLICATIONS OF AUSTRALIA'S DEMOGRAPHIC STRUCTURE

Even without the overlay of the Global Financial Crisis, the drivers of Australia's demographic trajectory are real:⁴⁸

- Ageing population.
- Fertility at below replacement.
- Rising life expectancies.
- Reducing number of entrants to the workforce.
- Increasing competition for skilled migrants.
- Life patterns, expectations and behaviour are changing.

The economic consequences are also clear:

- Living standards may continue to rise but at a slower rate.
- Government spending is likely to exceed revenue (even without the effects of the Global Financial Crisis).
- Increased spending pressures will emerge in health, age pensions and aged care, and education.

And the issues are global:

- Human capital is internationally mobile.
- The labour market is synchronised, integrated and global.

The demographic faultline neatly captures the urgency of Australia's human capital issues by highlighting the potential impact on workforce participation and productivity. However, the complexity of the economic, demographic and social

⁴⁸ For more detail see 'The Intergenerational Report 2007: Assessing the long-run sustainability of government policies', <www.treasury.gov.au/documents/1239/PDF/IGR_2007_final_report.pdf>.

factors ensures that human capital will remain a problem for all governments for some time.

The social and economic complexity of fertility, ageing and migration highlights the short-term volatility that is common to all human capital problems. Human capital problems are socially complex, have many interdependencies, are often multi-causal, and intervention can lead to unforeseen consequences. Small and sometimes unintended factors can have large cascading effects while social conditions, expectations and attitudes can quickly undermine efforts at direct intervention. They defy traditional approaches to policy action, thus they require deep understanding and long-term solutions.

What is clear is that the conversation about human capital must be far more complete, sophisticated and integrated across government than it has been to date. The challenge will be coordination and synchronisation of policy action across the tiers of government and across agencies. Human capital issues go beyond the capacity of any one agency or group to understand and respond. No one agency has responsibility; consequently, many agencies are exploring the same or similar aspects of the problem using the same sources of information. The result is increasingly sophisticated descriptions of parts of the problem, duplication of effort and partial solutions.

The 'will' is there to take integrated action but in many cases the process for collaboration and developing an integrated response remains formative. This type of problem challenges the traditional mindset and control procedures of government policy development and administrative functions. Australia's human capital is too important to its future global competitiveness for the status quo approach to continue. At best, this will lead to some sub-optimal improvements at the expense of an effective holistic solution.

Human Capital Growth and Development

INVESTING IN PEOPLE

Fertility, ageing and immigration comprise the essential elements of Australia's human capital strengths and weaknesses. Together, they represent the scope of the problem but they say little about what Australia must do to be competitive and resilient in a global marketplace with open borders for goods, services, technology, finance, and perhaps most importantly, people. However, there is little doubt that the rapid evolution of a synchronised and integrated labour market is most likely to occur in those countries that find ways to commit to an ongoing investment in the administrative infrastructure that supports the development and deployment of human capital.

In developing countries, where high growth has followed unprecedented technology and capital transfers, the human capital investment decisions seem clearer. In these countries, early and rapid investment in the basic infrastructure of human capital—education, health and welfare—will result in quick advances. For instance, there is a significant correlation between higher levels of female literacy and more robust GDP growth within a region. Consequently, those developing countries that find ways to invest in female literacy can expect significant growth in national human capital and competitiveness. Similarly, in the growth economies of India and China, focused investment in human capital will position these nations as leaders in key areas of the global economy. India's significant investment in scientific and engineering education is likely to result in knowledge parity with the US in these areas by 2020.⁴⁹

⁴⁹ National Intelligence Council, *Global Trends 2025: A Transformed World*, November 2008, p. 13.

Advanced economies, like Australia, already have good quality education, health and welfare policies and practices, so where must these countries invest in order to remain competitive?

There is no doubt, for instance, that education requires a significant and ongoing investment. However, in a mature education system this investment might lead to increased systemic efficiency but is unlikely to result in a breakthrough in effectiveness that will contribute significantly to sustained improvement in human capital. For instance, Terry Cutler's recent review into Australia's national innovation system noted that:

It is most assuredly the case that high quality education is about far more than funding, a point made vivid by the fact that we have doubled the resources spent on each child at school since the 1970s with scant improvement in the measured outcomes.⁵⁰

Continued investment in the existing approach without questioning its relevance, utility or contribution to achieving Australia's national human capital ends is unlikely to significantly improve the situation. For Australia, the way forward is more likely to be found in the more comprehensive and systemic reviews, like the National Innovation Review, that highlight the breadth of the investment required to build and sustain human capital, and thereby national competitiveness and resilience. For the advanced economies, the systems that support the quality, utility and adaptability of the nation's human capital are likely to be the only unit of analysis. Consequently, while female literacy is an important human capital investment it will be equally important for developing economies to invest in the systems and practices that will allow women to participate fully in the workforce. For Australia, innovation and investment in the systems and practices that shape behaviour, create opportunities and build capability are more likely to lead to high growth in a globally

⁵⁰ Terry Cutler, Review of the National Innovation System, *Venturousaustralia: building strength in innovation*, Canberra, 2008

synchronised and integrated labour market than the more traditional 'hard' economic mechanisms.

This section explores three systemic sources of growth that might provide a focus for Australia's future investment in human capital:

- Educating the Future Workforce,
- Innovation and Entrepreneurship, and
- Transformation through Information Technology.

EDUCATING THE FUTURE WORKFORCE

In the 2008 Boyer Lectures, News Corporation Chairman and Chief Executive Officer, Rupert Murdoch, noted that 'while Australia generally does well in international rankings, those rankings can blind us to a larger truth: Australia will not succeed in the future if it aims to be just a bit better than average'.⁵¹ Murdoch's central argument on education is that the 'global economy is raising the bar for success' and to continue to remain internationally competitive public education must be reformed.⁵²

Australia performs well in the OECD's global league of educational performance. In 2006, the OECD conducted its third standardised assessment of 15-year olds—the Program for International Student Assessment (PISA). This assessment is conducted across the 30 OECD nations and a further 27 partner nations. Australian 15-year olds ranked consistently higher than the OECD average in terms of reading proficiency, mathematical proficiency, and scientific literacy.⁵³

⁵¹ Rupert Murdoch, 'Aussie rules: bring back the pioneer', Lecture 1, Boyer Lectures, 2 November 2008

⁵² Rupert Murdoch, 'Fortune favours the smart', Lecture 4, Boyer Lectures, 23 November 2008.

⁵³ PISA assesses the reading, mathematical and scientific literacy skills of 15-year-olds every three years. The main focus of the assessment is different on each occasion: 2000 (Reading Literacy), 2003 (Mathematical Literacy),

Unfortunately, Australia's result in reading literacy has declined since the first PISA testing in 2000. In part, this is attributed to both a decline in Australia's performance and to improvements in other countries. Australia's performance in mathematics has remained statistically the same between testing in 2003 and 2006. This represents a decline in student performance from 2000. PISA 2006 was the first major assessment of science, so trend comparisons cannot be made. Nevertheless, 13 percent of Australian 15-year olds fell below a scientific literacy 'baseline' set by the OECD. Students below this level are considered not well prepared to participate in a 21st Century workforce. Alarming, among Australia's 15-year olds the level of interest in learning science sees Australia rank 24th out of the 30 OECD countries.⁵⁴

To remain internationally competitive, Australia will need leaders and a workforce that are scientifically and technologically literate. Deficiencies in mathematical and scientific literacy will hamper Australia's ability to generate a capable workforce and will undermine its capacity to solve the many technical problems it faces.

The PISA results show that while Australia is performing relatively well there are worrying signs of decline that could limit the ability of Australians to participate in a global marketplace. Moreover, Australia was consistently outperformed in these areas by countries like New Zealand, Canada and Finland, all of which face similar demographic challenges to Australia.

In an important area not assessed by PISA but which is likely to be critical to Australia's future human capital needs, Professor Tom Lindsey has highlighted that:

2006 (Scientific Literacy). The PISA reports are available at:
<<http://www.pisa.oecd.org>>.

⁵⁴ Terry Cutler made the same observations of Australia's educational performance in his Review of the National Innovation System.

Australia's school students spend the least time on second languages of students in all OECD countries. Language studies have collapsed from 40 per cent of Year 12 students studying a second language in the 60s to fewer than 15 per cent today.⁵⁵

This spiral of declining interest and investment in second language acquisition, together with the relative decline in educational performance, has a range of second-order effects that will constrain Australia's ability to rebuild its human capital capability. For instance, ultimately, there will be a decline in the high-level expertise that continues to renew Australia's understanding of the language and train its educators. Consequently, there will be an overall decline in the quantity of resources available to teach in Australian schools and an overall decline in the quality of education. In national security terms, if Australia is forecasting a rise in China's and India's influence in its immediate region and a possible re-balancing in its relationships with the US and Europe, then a significant part of Australia's ability to navigate a safe and prosperous path will depend on the ability of Australians to fully engage with the culture and language its key regional partners. The Australian Government has included Languages Other Than English (LOTE) as one of the eight key learning areas identified in the 'National Goals for Schooling in the 21st Century. Specifically, the Australian Government has committed funding of \$62.4 million over 2008–09 to 2010–11 for the National Asian Languages and Studies in Schools Program.⁵⁶ Nonetheless, the decline in second language acquisition among young Australians is a significant human capital issue.

Australia's human capital future depends on a scientifically and technologically literate workforce that can operate

⁵⁵ Tom Lindsey, 'Relaxed, complacent and risible', *The Australian Literary Review*, 7 March 2007

⁵⁶ Department of Education, Employment and Workplace Relations, 'Languages Education', <http://www.dest.gov.au/sectors/school_education/programmes_funding/pr_ogramme_categories/key_priorities/languages_education/default.htm>

confidently in its region and the world. However, there are signs of a decline in Australia's performance relative to other nations and Australia's public expenditure on education as a proportion of GDP is 19th out of 30 in comparison with other OECD member nations. This is slightly below the OECD average. Australia achieves high results in the three main areas of assessment; however, there are also areas of significant educational disadvantage in Australia. Consequently, a significant proportion of young Australians are at risk of not being able to make a contribution in a 21st Century workforce.

A British Cohort Survey investigated the difference in educational achievement between children from different social backgrounds and how it was related to their early development.⁵⁷ Children with educated and wealthy parents who scored poorly in the early tests tended to catch up, whereas children from disadvantaged backgrounds that scored poorly, were extremely unlikely to catch up, and were an at-risk group. This study shows that social background is a powerful predictor of educational outcomes. Clearly, a part of the long-term government contribution to sustaining human capital is to assist schools to overcome the effects of social and economic inequality.

These findings again highlight the inter-dependency between the elements of Australia's human capital challenges. The 2006 PISA findings regarding educational disadvantage are often raised and explored within the context of education. However, the solution for improving the educational opportunities for young Australians from disadvantaged backgrounds is most likely to be found in the Australian Government's commitment to social inclusion. The objective of the Social Inclusion Agenda is to ensure that 'all Australians need to be able to play a full role in all aspects of Australian life'. Providing stability in the home, social and community life

⁵⁷ Leon Feinstein, 'Inequality in the early cognitive development of British children in the 1970 cohort', *Economica*, vol. 70, no. 277, 2003, pp. 73-97.

of those from disadvantaged backgrounds may well be the most important policy step toward improving educational outcomes.

The Productivity Agenda Working Group and the Council of Australian Governments' (COAG) National Reform Initiative Working Group have taken a 'life-cycle' approach to setting targets for human capital development. The target areas are early childhood development, schooling, skills and workforce development. However, with the exception of the comprehensive emphasis on early childhood, the COAG's targets in these areas are focused on direct intervention in familiar areas of reform. For example, a goal for school-age educational reform is lifting the Year 12 or equivalent attainment rate to 90 percent by 2020; and a goal for skills development is to halve the proportion of Australians aged 20-60 without qualifications at Certificate III or above. These interventions target improvements in the efficiency of the existing system without questioning whether the educational system itself must be reformed. For example, to what extent are 2006 PISA results a lead indicator of a slowly deteriorating educational system that is not adequately preparing young Australians to participate in a global marketplace? Is additional investment in the current system likely to deliver a better outcome? Terry Cutler's earlier observation would suggest not.

There is a strong correlation between years of education and earnings, and the global labour market is increasing the value of knowledge. In a global economy, the ability to learn is the core currency. So, for all people, education and training are the best way to maximise performance. The challenge is to continue to find innovative ways to create opportunities for all Australians to participate in life-long learning.

The Demographic Faultline discussed earlier suggests that to support continued growth, Australia will need to extract more productivity from a smaller working age population, including a larger number of older Australians. As with young Australians, most adult Australians have adequate to strong

literacy levels compared to OECD countries; however, there is a significant minority of adults with low measured literacy who are not considered well-equipped to operate in today's workplace. Low literacy is a significant limitation on an individual's ability to fully participate in the modern workforce.

Currently, Australia's labour force productivity remains below the best OECD performers. In part, this is a function of geography but it could also reflect under-performance in key segments of the workforce.

Labour force participation in Australia has risen steadily from 60.8 percent in 1979 to 65.5 percent in 2009.⁵⁸ The Australian Bureau of Statistics (ABS) attributes the rise to an increase in female participation, which has risen from 43.6 percent in 1979 to 55.5 percent in 2002. In contrast, male participation fell from 78.4 to 72.2 percent over the same period. However, Australia's participation rate continues to lag that of similar countries such as Switzerland, Denmark, Norway, Sweden, Canada, New Zealand and the United Kingdom. Significantly, there are three groups within the labour force profile where Australia underperforms in relation to other nations:⁵⁹

- prime aged males (25 to 54 years), where Australia ranked 6th lowest among 30 OECD countries;
- child-bearing aged women (25 to 44 years), where Australia ranked 8th lowest; and
- older men and women (55 to 64 years), where Australia ranked 13th within the OECD.

In contrast, for youths (15 to 24 years), Australia ranked 2nd highest among OECD countries. Consequently, there seems to be a significant problem in Australia's ability to

⁵⁸ Source: Australian Bureau of Statistics 6105.0 - Australian Labour Market Statistics, Jan 2004; 6202.0 - Labour Force, Australia, Feb 2009.

⁵⁹ Joanna Abhayaratna and Ralph Lattimore, 'Workforce Participation Rates – How Does Australia Compare?', Productivity Commission, Staff Working Paper, December 2006, p. x.

convert high levels of youth participation into ongoing adult participation, which will be a drain on future workforce productivity and growth. Targeted human capital interventions in these three segments of the Australian workforce (including the systemic barriers to their workforce participation) could result in significant opportunities for growth. Potential policy actions for better labour force participation were grouped by the Productivity Commission into three broad areas:⁶⁰

- improving the capacity of people to work,
- improving incentives to work, and
- creating more flexible institutional arrangements that reduce the barriers to participation.

The problems of educating the future workforce are complex and cross the traditional boundaries of government administration. Australia's human capital cannot be 'managed' through the stovepipes of the traditional government bureaucracy. It will require a different approach to policy development and program management across portfolios and levels of government. It will require public sector leadership to intelligently respond to the issues in ways that will provide a more competitive and resilient Australia.

INNOVATION AND ENTREPRENEURSHIP

The Productivity Commission's Report on Public Support for Science and Innovation noted that:

High quality human capital is fundamental to the innovation system. A highly skilled workforce not only provides Australia with the capability to pursue scientific knowledge and undertake research and development type activities, but also to utilise and

⁶⁰ Productivity Commission, 'Raising Labour Force Participation: Issues and Challenges', Media release issued with Annual Report 2006-07 on 21 February 2008.

adapt innovation flowing from research and development undertaken in other countries.⁶¹

Similarly, the Cutler Review of the National Innovation System observed that:

Innovation is about far more than the funding of research and science, or even commercialisation. Australia thrives only if the critical mass of business enterprises and workplaces are consistently innovating – not just with next generation products, inventions and technologies, but in their operations, organisation, relationships and business models.⁶²

The recommendations of the Cutler Review seek to remedy the existing problems in the National Innovation System. Cutler acknowledges the importance of high quality human capital to innovation,⁶³ calling for innovative educational reform as the key feature of Australia's future competitiveness. Teacher quality is also a major area for innovative and educational reform. Indeed as a McKinsey study conducted for the OECD (titled, 'Why the world's best performing school systems come out on top'), noted:⁶⁴ the quality of an education system cannot exceed the quality of its teachers; the only way to improve outcomes is to improve instruction; and high performance requires every child to succeed.

It is laudable that Australian Government policy is to 'bring our classrooms into the 21st century' through the \$1.2 billion commitment to the National Secondary School Computer Fund. However, an increased emphasis on using technology in learning will have little impact unless it is matched by reforms that will sustain the quality and relevance of the

⁶¹ Productivity Commission Research Report, 'Public Support for Science and Innovation', Canberra, 9 March 2007, p. 246.

⁶² Terry Cutler, Review of the National Innovation System, p. 4.

⁶³ *ibid.*, p. 53.

⁶⁴ McKinsey & Company, 'How the best reporting school systems come out on top', September 2007, <http://www.mckinsey.com/client-service/socialsector/resources/pdf/Worlds_School_systems_final.pdf>.

education delivered to all young Australians. In particular, the quality of teacher knowledge, the integration of technology to support educational outcomes and a curriculum that equips Australians to participate in a global economy are key ingredients.

Cutler also recommended that:

Innovation policy should be aligned to immigration policies to ensure that they facilitate Australia's access to the global talent pool. In particular, human capital should carry equal or more weight than economic capital in individual migration assessments.⁶⁵

A contextual extension of this recommendation might be to recognise that immigrants to Australia come with expectations, dreams and drive for a better life. Regardless of whether these people are skilled or unskilled, Australia has an opportunity to harness this commitment and motivation to build a prosperous nation. To do this, Australian society needs to develop a bias toward immigration in its national outlook.

Such a bias would focus on the energy and endeavour that immigrants bring to Australia and provide every opportunity for them to fulfil their aspirations. Immigrants to Australia have always provided innovators and entrepreneurs who have contributed significantly to the nation's prosperity and society. The national challenge is to remove the barriers to their success.

The ABS survey of innovation shows that in the 'two calendar years ended December 2005, innovating businesses in Australia represented 33.5 percent of all businesses. This is an increase of 3.9 percentage points from the 29.6 percent recorded for the two-year period ended December 2003'.⁶⁶ These statistics do not present an encouraging view of a vibrant and entrepreneurial Australian business community

⁶⁵ Terry Cutler, Review of the National Innovation System, p. 60.

⁶⁶ Australian Bureau of Statistics, Publication 8158.0 - Innovation in Australian Business, 2005.

that is capable of fostering the motivation and talents of new Australians. These results suggest that two-thirds of Australia's business leaders lack the capacity to be entrepreneurial or that Australian business is risk averse or that it lacks commitment to innovation.

Fostering innovation and entrepreneurship in business and government requires more than structural change. Australia's government, administrative and business leaders must commit to a culture of openness to change and adaptability. While innovation and entrepreneurship are routinely cited by business and government leaders as central to Australia's future prosperity and growth, the statistics suggest that many are more comfortable with the status quo. For instance, where is entrepreneurship and innovation encouraged in the delivery of government services? Where are ideas developed, prototyped and evaluated? Entrepreneurship and innovation thrive where there is opportunity, confidence and trust. These qualities are bred in open, participative and tolerant organisational cultures with an approach to workforce development that encourages creative and critical thinking. Australia's human capital growth depends on organisations that provide the opportunity for entrepreneurship and innovation.

TRANSFORMATION THROUGH INFORMATION TECHNOLOGY

There is a view of technology's effect on human capital that has been attributed to the historian and social critic, Lewis Mumford, that should be front-of-mind for leaders and policy makers: 'Technology is both a shaper of, and is shaped by, values'.⁶⁷ Increasingly, people are re-shaping their daily activities around the information and communications technologies that are available to them. In organisations, the

⁶⁷ Casey Blake, 'Lewis Mumford: values over technique', *Democracy*, Spring 1983, pp. 125 - 37, cited in Thomas Hughes, *American Genesis: A Century of Invention and Technological Enthusiasm 1870-1970*, Viking Penguin, New York, 1989.

character of these technologies is driving the way people coordinate and organise the workforce. In some ways, technology is calling organisations into being. Subtly, it is reshaping social relationships and organisational forms.

Government may be the sector most affected by new information and communication technologies. As one study into the future of government work offered, technology:⁶⁸

- has become far more than the factor of production – it is in itself a policy lever;
- alters the very concept of policy, and our very understanding of service delivery; and
- can preserve the underpinning policy purpose through connected systems.

According to the ABS, in 2007-08, 67 percent of Australian households had home Internet access and 75 percent of households had access to a computer. Between 1998 to 2007-08, household access to the Internet at home has more than quadrupled from 16 to 67 percent, while access to computers has increased by 31 percentage points to 75 percent. In 2007-08, the number of households with a Broadband Internet connection increased by 22 percent from the previous year, to an estimated 4.3 million households. This represents over half (52 percent) of all households in Australia and 78 percent of households who have Internet access.⁶⁹ The rise of the Internet represents not only a major technological change in the Australian community but, perhaps more importantly, it continues to drive fundamental social and organisational change.

⁶⁸ Jerry Fishenden, Marie Johnson, Kim Nelson, Gilles Polin, Gabe Rijpma and Pascal Stolz, 'The New World of Government Work: Transforming the Business of Government with the Power of Information Technology', March 2006.

⁶⁹ Australian Bureau of Statistics, Publication 8146.0 - Household Use of Information Technology, Australia, 2007-08.

The 'digital economy' has been highlighted as vital to Australia's future growth and prosperity. However, Australia currently lags other OECD nations in broadband penetration and speed.⁷⁰ As with the National Secondary School Computer Fund, the Rudd Government has committed to the National Broadband Network (NBN) through fibre-to-the-premises as a major component of policy. In both these policies, there is an underlying assumption that technology is central to building human capital. There are two aspects to this argument that extend beyond the technicalities of connectivity. First, there is an 'if we build it they will grow' approach to accessing and using the technology, which argues that exposure to technology results in skills development. That is, intuitively, people will develop the skills they need to use the technology and successfully apply it to become more connected and engaged. Second, there is an argument that 'skills beget skills' in that information and communications technology is a lever that in the hands of an educated population will compound, resulting in even greater levels of human capital. It is likely that both these views are correct. However, as with innovation and entrepreneurship, governments have a significant role in creating the space for opportunities to be realised.

The pervasiveness of technology is such that it will have an effect regardless of whether governments are prepared or not. The UK Government's Power of Information Review noted that the widespread availability of information is leading individuals, groups and organisations to collect, re-use and distribute information in different ways. Most importantly, people are re-organising their behaviour around their ability to access information and this is having, and will continue to have, profound impacts on the delivery of government services.⁷¹

⁷⁰ Presentation to the Australia 2020 Summit, 'Future Directions for the Australian Economy', April 2008.

⁷¹ Ed Mayo and Tom Steinberg, 'The Power of Information', June 2007.

This is significant because the relationship between governments and the public has been based on a 'transactional model' of service interaction that was mediated by the various administrative departments. Essentially, the departments provided the infrastructure to deliver one-size-fits-all services to the public. In the past, very few people had the capacity or tools to access government information in any way other than in the form it was presented. The growth in the availability of information, combined with the ability of individuals to access it through a variety of electronic media, is re-shaping government service delivery and operations at every level. The public has the ability to 'mix and combine information to create new services of benefit to society'.⁷²

The subsequent policy, administrative and organisational ripples of this empowerment are being felt in important areas that are slower to adapt, such as regulation and privacy. The challenge for the Australian Government will not be in establishing a NBN; rather, it will be in keeping pace with the social and organisational change that will attend the new technologies it will place in the hands of the public.

Information is a conduit for restructuring the relationship between the government and the community. Information access opens the door between government and the public; it allows governments to more precisely deliver services, and the public's access to government information that enables co-production in the delivery of services. These are fundamental changes in the relationship between government and public that have important implications for building and sustaining human capital.

Technology and its social and organisational consequences will play out against the backdrop of the established regulatory environment, ageing technology assets and the cost of continued modernisation, emerging functionalities, and social and generational change. All these

⁷² *ibid.*, p. 25

are potential barriers to the development of Australia's human capital.

REMAINING COMPETITIVE

A recent Goldman Sachs report showed that by 2030, two billion new people may join the world middle class, and India will provide a significant number of these. The reports authors concluded that these shifts could be a significant influence on spending patterns, resource use, and environmental and political pressures.⁷³ To remain competitive in this more vibrant and diverse global environment, Australia must:

- Ensure that it is educating for participation in the global economy, in particular a sustained commitment to widespread scientific and technological literacy, and second-language acquisition.
- Avoid systematically under-investing in education by ensuring that policy treats expenditure on education as an investment in future productivity.
- Create opportunities for a well-educated, flexible and geographically mobile workforce to apply its skills and to be re-skilled over time.
- Improve the opportunities for business and government to be innovative and entrepreneurial in the development and delivery of products and services.
- Recognise that information and communications technologies are a powerful policy lever that will drive social and organisational change in government, business and the community.

⁷³ Dominic Wilson and Raluca Dragusanu, *The Expanding Middle: The Exploding World Middle Class and Falling Global Inequality*, Global Economics Paper No: 170, Goldman Sachs, 7 July 2008.

The Human Capital System

THE POLICY OF ADMINISTRATION AND DELIVERY

The Australian Government appears to have wholeheartedly embraced its role as a strategic change agent. The Prime Minister has mapped out a substantial program of human capital reform that addresses education, social inclusion, homelessness, innovation and physical and technological infrastructure. Accordingly, the expectations and demands of the delivery agencies and their administration are increasing. Agencies are being driven toward whole-of-government solutions, providing integrated services, seamless communication and operation, and expanding the range of roles and tasks they perform. The Australian Government expects all agencies to be more flexible, adaptable and versatile than ever before in providing a diverse range of response options.

These expectations are not new but the breadth and pace of change that arrived with the Rudd Government is accelerating the evolution. Its ambitious policy agenda is the foundation, but it is also communicating, perhaps unconsciously, an ambitious administrative reform agenda.

Government agencies are, sometimes unfairly, characterised as 'rigid bureaucratic systems operating command-and-control procedures, narrow work restrictions and inward-looking cultures'.⁷⁴ In reality, the Australian Public Service has been steadily working toward finding ways to improve administration and deliver services that transcend organisational boundaries. However, the pace of technical and social change is such that without substantial strategic reform the gaps between policy, administration and delivery are likely

⁷⁴ Stephen Goldsmith and William Eggers, *Governing by Network: The New Shape of the Public Sector*, Brookings Institution Press, Washington DC, 2004.

to widen. The prevailing view that policy is developed by 'smart' people working with the 'data' to produce a 'good' answer is significantly flawed in a time when faster communication and transaction result in more complex and interdependent relationships that drive rising expectations of both efficiency and quality in delivery. The risk is that the human capital policy agenda will not be effectively translated and implemented as an administrative reform agenda. Increasingly, the government leaders will need to find ways to close the gap between policy, administration and delivery.

National security is an example where a new approach has emerged to close this gap. In appointing Mr Duncan Lewis as the National Security Advisor (NSA), the Prime Minister said:

[He will] provide improved strategic direction within the national security community, support whole-of-Government policy development and crisis response, and promote a cohesive national security culture.⁷⁵

In essence, the NSA will improve coordination; provide a focus for the national administration and implementation of security; and enhance governance and support to government. This is needed because the Australian Government's National Security Statement expresses a set of integrated and expanded policy outcomes for the national security community that are beyond the capacity of any one agency to deliver. The NSA was appointed to translate the national security policy ideas into processes and delivery.

The creation of the NSA is important for two reasons: first, it aligns national security policy formulation and delivery (acknowledging that the existing administrative structures could not deliver the expected policy outcomes); and second, it implicitly recognises that policy implementation (the delivery

⁷⁵ Emma Rodgers, 'Former SAS commander named as national security adviser', 4 December 2008. <
<http://www.abc.net.au/news/stories/2008/12/04/2437762.htm>>.

of the service to support government policy) is central to success.

This paper acknowledges that the human capital challenges facing Australia are constantly evolving, interdependent and complex. Therefore, the solution will not be found in the greater efficiency of a policy, administration and delivery system that is not equipped for interconnectedness and complexity (other than through disaggregation). The features of the ersatz human capital system are identified as well as the principles of the emerging system that provide best opportunities for innovative human capital policy reform.⁷⁶ While the focus is on the larger national human capital policy, administration and delivery system, the features of the prevailing system and the principles that govern reform apply equally to the development and growth of human capital in the national security community.

CONTINUITIES AND DISCONTINUITIES

There are two ways of looking at the strategic human capital environment. There are continuities (such as demography) where Australia needs to build and manage a solution. The problem has been clearly formulated and the general shape of the policy solution is known. The usual response to strategic continuities is to manage them using the existing suite of administrative tools, processes and procedures. This is the realm of short-term policy initiatives to address specific economic conditions.

⁷⁶ Many of the key concepts that follow have been developed by Mr Brendan Sargeant. Mr Sargeant and the author have spent considerable time mulling over the dimensions of administrative and service delivery reform. Mr Sargeant's thoughts have been captured in two unpublished papers, 'The Customer is the Measure of All Things' and 'A Possible Strategic Framework for the Development of, and Participation in a National Service Delivery System'. With Mr Sargeant's permission, parts of these papers have been reproduced in this Kokoda Paper.

There is also the potential for discontinuities to arise as a result of unexpected external events, such as the Global Financial Crisis. Discontinuities might also emerge as unanticipated second- and third-order effects of a 'managed' response to demographic continuities. The subtle and slow-to-emerge discontinuities that arise from misaligned management approaches are likely to pose the greatest threat to the Australian Government's human capital agenda.

The elements of the human capital problem are highly interdependent, pervasive, and dynamic. They have systemic effects that create problems that cannot be solved through management solutions alone. They are 'wicked problems' in that:⁷⁷

- There is no definitive formulation of the problem and no conclusively 'best' solution.
- The problem exhibits itself as an evolving set of interlocking issues, constraints, objectives and options for action. Ends and means overlap.
- They are not solved; they are managed until a decision is made to stop managing them (or there are no more resources).
- The understanding of the problem, and hence the 'working' formulation of it, evolves as the problem unfolds and as various actions are taken, each of which is intended to be a partial solution; that is, to improve some aspect of the total problem.

In seeking to address the wicked problems of Australia's human capital, there is the pressing need for a system design solution. The issue of declining fertility rates involves designing work such that women can participate both in child-rearing and the labour force, and the issue of education involves designing how disadvantage can be tackled in the

⁷⁷ Horst Rittel and Melvin Webber, 'Dilemmas in a general theory of planning', *Policy Sciences*, vol. 4, 1973, pp. 155 - 69.

Australian community while also providing the opportunities for life-long learning. A system design approach is as much about how the problem is framed and changing the shape of the policy response, as it is about solving the problem. Consequently, policy, administrative and delivery design reform is the agenda for all government departments responsible for human capital.

In particular, the Australian Government needs to find a way to leverage discontinuities and, in doing so, change its approach to managing pervasive continuities in the system. To some extent, Australia's human capital issues are problems of growing strategic misalignment between policy, administration and delivery. The strategic human capital question is not what programs or initiatives should be delivered to build and sustain Australia's human capital competitiveness and resilience, but rather how to 'hot house' the still embryonic but fast-developing 'national human capital system' so that it will deliver the Australian Government's human capital intentions.

In part, the strategic misalignment between human capital policy, administration and delivery stems from the nature of the human capital 'crisis'. While human capital is a 'front-of-mind' issue for most government agencies, it does not have the sense of crisis that compels administrative leaders to think and act differently. There are two inter-related reasons for this: first, human capital is a slow-moving crisis; and second, the national administrative systems may have reached an 'efficiency plateau' that limits the opportunities for further performance improvement.

A SLOW MOVING CRISIS

Today, Australia seems beleaguered by crises. Some appear suddenly, they are immediate and personal, the threat is tangible, the desire for action is intense and at every level there is uncertainty about whether the solutions will work. The global economic meltdown is a recent example of this type of crisis. The Victorian bushfire crisis is another example. Australia's collective response to immediate crisis is politically,

administratively, organisationally and socially comprehensive. When faced with immediate and tangible threat, the response is quick and decisive.

However, there is another form of crisis that government agencies are not as well-equipped to manage. A slow-moving crisis is gradual and remote, the threat is subtle, there is a desire for action but there is also time to consider the options, and the possible futures are open to conjecture and debate. Indeed, the problem and its solution quickly become mired in the detailed debates of experts. Human capital, in particular the ageing population and skills shortages, and global climate change, are current examples of slow-moving crises.

The trouble with a slow-moving crisis is that there is no obvious culmination point where it can be conclusively stated that 'the sky is falling'. There is no obvious or immediate threat. Rather, it is more likely that while the options are being considered 'the sky falls in'. Current administrative governance and decision-making systems are not well-positioned to tackle slow-moving crises until the threat is clearly tangible, immediate and personal.

In a slow-moving crisis it is tempting to cling to a partial truth about the problem or situation from which a solution can be developed. Unfortunately, the solution is also partial. In addressing Australia's changing demographic structure, a partial truth such as the impact of the ageing population on government budgets has been used to create the sense of crisis. In turn, this has mobilised a wider understanding of Australia's human capital issues. Unfortunately, the partial nature of this fact drives a partial solution that obscures the more devastating characteristics of this crisis. For example, the impact of the ageing population on the budgets of Federal and State Governments has been consistently identified by health professionals and demographers as a partial truth that generates partial policy solutions.⁷⁸ Similarly, the often shallow

⁷⁸ Michael Coory, 'Ageing and healthcare costs in Australia: a case of policy-based evidence?', *Medical Journal of Australia*, vol. 180, 2004, pp. 581-83;

discussion of intergenerational differences is another partial truth that skews planning and decision-making in response to the emerging features of demographic change.

There is very little practical or dedicated capability in the national administrative systems that are devoted to monitoring the evolution of a slow-moving crisis and providing clear advice on the direction of change in policy and administration. In part, this is a collective weakness that arises from the need to respond to and manage the immediate. Consequently, administrative leaders at all levels are immersed in the timeless present and cannot clearly see the underlying forces of evolutionary change that are re-shaping the environment.

Access to more comprehensive information and analysis tools offers the ability to better recognise and communicate the features of a slow-moving crisis. Strangely, this same access has reinforced long-standing, twentieth-century management practice, which continues to perpetuate the illusion that leaders can plan and guide change in a pre-determined, staged and linear sequence. The slow-moving crisis of human capital requires a policy and delivery design solution that will challenge the prevailing operating culture of government administration.

A human capital crisis would imply that Australia is at a crucial stage or turning point or fork-in-the-road where the decisions taken are critical to success or failure. Certainly, Bernard Salt and other demographers would argue strongly that Australia is standing at that point today. It is difficult for many of Australia's administrative leaders to see human capital as a 'crisis'. It is difficult to clearly see a credible threat, to see that something valued is at risk, and to see why there should be a sense of urgency to find solutions. And, if it is not an immediate crisis, agencies can 'manage' and 'shape' its trajectory, using the trusted tools and techniques of

administration and service delivery. Unfortunately, a managed response to a wicked problem in a slow-moving crisis has the potential to worsen the situation because it does not allow for the possibility that simultaneous change is needed in policy, administration and delivery.

The roots of Australia's human capital challenges are in the decisions and events of the preceding century but the consequences are constantly evolving with the changing environment. Surprisingly, in a slow-moving crisis public agencies must be more alert to the need for transformation that will allow them to be more agile in policy, administration and delivery. Importantly, the slow-moving character of this crisis has significant implications for the equally slowly evolving issues of national security. It may be that the national security community is best placed not only to understand the character of the problem but also be an active advocate for the reforms that will improve the situation.

A TRANSACTIONAL APPROACH TO GOVERNMENT SERVICE DELIVERY

Many senior government officials seem to be struggling with an 'efficiency plateau' in their management and administrative systems. Sustained pressure on public sector efficiency by successive governments has seen agencies looking for breakthroughs in performance. However, the efficiency-based tools on which they have traditionally relied are no longer effective. Indeed, there is a growing sense that further administrative efficiency measures will result in reduced performance.⁷⁹ To understand why the public service may have reached an efficiency plateau, it is important to reflect on the nature of government service delivery.

⁷⁹ Presentation by Lynelle Briggs, Australian Public Service Commissioner, 'State of the Service Report 2007–08' Hobart, 2 February 2009.

Government agencies are all in the business of delivering services. The delivery of these services is underpinned by a 'transactional management' model. Simplistically, this model frames government services as problems of transaction. The core issues are supply chain management, product distribution and queue management. In this environment, the responsible agencies that administer and deliver government services manage processes and crowds. In their own way, education, health, immigration and welfare agencies manage processes that deliver services and the way groups of people access those services.

The embedded values of a transactional model are consistency, standardisation and repeatability. The strategic aim is to deliver a standard 'product' or 'service' as efficiently as possible. The strategic task for administrative managers is to reduce variation and ensure the consistency of output. The system's performance focus is on the service transaction because the outcome is considered a tangible product or service, such as health, education or welfare. So, all forms of system measurement take place at the point of exchange. Systemically, the provider of the service is not concerned with the 'client' beyond meeting the need specified at the point of transaction. Indeed, the relationship between service provider and client in a transactional management model of service delivery is functional, structured and has clear boundaries. The provider interprets the policy requirement and then delivers to the specification.

This approach is a long-standing artefact of twentieth century organisation. It has been so dominant that it is difficult to think about different ways of operating. In 1977, Alfred Chandler gave clear voice to the concept when he argued that internal organisation and managerial authority became necessary to coordinate the industrial economy of the late nineteenth and twentieth centuries. The title of his book, *The Visible Hand: The Managerial Revolution in American Business*, suggested that the 'visible hand' of managerial

coordination had replaced Adam Smith's 'invisible hand' of the market.⁸⁰

The main flaw in this vertically integrated model of administration and delivery is that by framing these functions as a transactional exercise, the opportunities for integration within and across systems becomes problematic. Each constituent part of the system, for example education or health, has ownership of and is responsible for delivering a specific and complete service to government. Often, delivering this service does not require reference to the services delivered by other agencies or reference to the strategic goal of the overall system. Locally, the agency operates in a closed system. Strategically, the agencies are sub-elements of a larger system where each receives instructions and produces outputs that contribute independently to a 'whole-of-government' solution.

In this approach to human capital development, performance improvement can only occur through increased efficiency (generally through process improvement) within the closed system of the individual agency. Consequently, strategic reforms such as efficiency dividends are set as one-size-fits-all performance initiatives because, in the absence of a coherent and binding strategy, this is the only way to change agency behaviour. The idea that many agencies have reached an efficiency plateau can be seen in the widespread argument that further 'efficiency' will result in sub-standard public sector performance. Indeed, the underlying logic of the transactional management model is so strong that even structural change in the form of strategic agency amalgamation or integration does not change behaviour or achieve efficiencies. Structural or organisational change does not affect the underlying system of administration and delivery. The transactional model of

⁸⁰ Alfred Chandler, *The Visible Hand: The Managerial Revolution in American Business*, Belknap Press, Cambridge, Mass., 1977.

administration and service delivery results in a system with the following characteristics.⁸¹

- *Dispersed and isolated management.* The management of administrative services is delivered in a closed system. There is limited opportunity for integration and little encouragement to pursue it.
- *Disaggregated structure.* The organisational structures are designed to deliver services in a specific context. The prevailing structure, at the micro or macro level, does not have the capacity or authority to change to suit different conditions.
- *A lack of strategic goals.* There is no strategic goal against which the relevance of current activity can be assessed. All performance measurement is self-referencing as it takes place within a closed system. The opportunities for improvements in efficiency or effectiveness through true integration are limited.
- *Internal competition.* Agencies spend time competing for influence, advantage and resources. This reduces the opportunity for cooperation and collaboration.
- *Uneven resource distribution.* Agencies that pursue true performance improvement are treated in exactly the same way as those that do not. Consequently, the resources are unevenly distributed and behaviour regresses to internal competition.
- *Overlap, duplication and gaps.* Disaggregation and management isolation lead to overlaps and duplication. The inability to identify gaps between policy, administration and service delivery is the most significant issue as it undermines the ability to adapt.

⁸¹ Brendan Sargeant, 'A Possible Strategic Framework for the Development of, and Participation in a National Service Delivery System', 2009, (unpublished).

- *Problem-centric not people-centric approach.* Administration and delivery are organised around solving problems. Consequently, solution identification places the source of the problem with those accessing the service without recognising the possibility that the orientation of the administration and delivery system may be the problem. This results in administrative and service delivery processes that are not necessarily well-targeted or comprehensive.

The transactional management model has delivered considerable benefits throughout the preceding century; however, a short period after Chandler's exultant prophecies about the continued strength of large, vertically integrated organisations, this operating model is under siege. In particular, the growing recognition that government business is becoming more complex and that the solution requires a change toward whole-of-system, greater integration, clearer strategic goals and adaptive management is a response to these problems. Unfortunately, the transactional mode of operation is deeply entrenched in the culture, processes and behaviour of public sector agencies.

In the national security community, the Defence Department provides a good example of transactional human capital management. Successive reviews of the Defence workforce system refer to its 'transactional' character; the *Defence Management Review* is the latest of these:

...despite seeing some innovative long-term strategic HR work under development, the HR function is not generally well-aligned with the overall strategy of Defence. Much of the personnel function remains focused on transactional, regulatory and process issues such as pay and conditions; it is not fully linked to decision making in Defence, or to integrated strategic HR planning with the wider business.⁸²

⁸² Report of the Defence Management Review, 2007, p. 48.

The presiding values of workforce service delivery in the Defence Department are consistency, set standards, precision, objectivity and repeatability. The strategic aim is to deliver a standard activity or service as efficiently as possible. The Department's focus is on the transaction at the end of the transactional chain—pay, promotion or entitlement—because the outcome of the system is an activity or service. From a central personnel function perspective, there is not much concern for the workforce beyond meeting its needs at the transaction level. Again, the focus is on the point of exchange in the service not the way it is delivered. Nor is much demanded of those who manage the workforce delivery system beyond the ability to manage and process the transaction efficiently. Their discretion is limited. The skills and expertise they require is comparatively low. For example, the ADF's career management systems have long been criticised for the rapid turnover of personnel. However, it is possible to sustain this rate of personnel churn if the focus is on strict adherence to a transactional one-size-fits-all career management process. The skill of career managers develops only in relation to their ability to contribute to the efficient functioning of the process. There is no room for flexibility and adaptability because the workforce development system is designed to deliver a homogenous outcome.⁸³

The Defence Department is not alone in managing human capital development in this way. Indeed, the principles of this approach carry across agencies and also apply more broadly to the development of national human capital. There has not been any real 'human capital system' that aligns strategy, policy, administration and delivery in Australia. Rather, just as there is in the Defence Department, there are a host of different services that are delivered that appear to mimic a coherent human capital system. Consequently, a government

⁸³ Nick Jans and David Schmidtchen, *The Real C-Cubed: culture, careers and climate and how they affect capability*, Canberra Papers on Strategy and Defence No. 143, Strategic and Defence Studies Centre, Australian National University, Canberra, 2002.

reform agenda that seeks an integrated and expanded policy for human capital outcomes, including the addition of national security effects, will struggle to find effective translation into administration and delivery. Currently, COAG provides some overarching direction and energy for human capital reform but where will responsibility for sustaining this agenda eventually reside?

RELATIONSHIP-BASED SERVICE DELIVERY

Consumer futurist, Richard Wilson, characterised the changing expectations people have of service delivery as: fast, smart, and seamless; know me, anticipate me; know us, connect us; more transparent (but protect me); let me choose (but don't give me too much choice); let me design it, tailor it, participate in it.⁸⁴ These expectations are driven by the increasing connectivity of network and communications technologies and the unprecedented access to information that this affords individuals. In essence, Wilson is arguing that access to information and technology is restructuring the relationship between business service provider and consumer. Indeed, consumers are demanding participation in the design and delivery of the services they consume. The same trends are reshaping the delivery of government administration and services. In particular, they will restructure the relationship between the policy, administration and delivery of services that will grow and sustain Australia's human capital.

Technology is a volatile force that will redesign the government service delivery environment more quickly than any policy initiative. It is now possible to develop government service delivery systems that can grow Australia's human capital in ways that have not been possible in the past. However, this will also strengthen the power of the public in the administration and delivery of government services (for example, health, education, welfare). Additionally, it

⁸⁴ Richard Wilson, *Future Files: A History of the Next Fifty Years*, Scribe, Melbourne, 2007.

establishes a new set of system-level performance criteria that in turn will challenge the efficiency and effectiveness of current administrative and policy structures.

The national security community has had direct experience of the impact of technology on service delivery. The reviews of intelligence failures post-11 September 2001 focused on the issue of interagency information sharing and collaboration. The increasing interconnectedness of authority, responsibility and accountability between agencies challenged the prevailing organisational culture that determined who had the authority to access particular information. The unspoken confidence in structure and process that was a critical component of stovepipe intelligence agency operation was confronted by networked technologies that carried the requirement for a more open model of information transfer. These technologies challenged and reshaped the policy, administration and delivery of intelligence services. The failure to deliver timely intelligence services to government revealed what was possible through the apt use of technology and the role of organisational culture, systems and administration in limiting its use.

Similarly, in relation to human capital, the Deputy Prime Minister observed that: 'when we look at our children in international testing compared with children around the world what we see is two disturbing things: firstly, we're not getting our high achieving students up to the best possible standard; and secondly, we've got a long tail of underachievement'. Perceptions of failure in delivery of education is leading reform in policy, administration and delivery but success will require the responsible agencies to break free from the constraints of the prevailing system.

In the national security community, the chronic personnel challenges faced by the ADF are evidence of personnel policy failure that has a tenuous grasp on the relationship between strategy, policy, administration, and delivery. Reform in this area tends to focus on finding efficiencies within the existing 'system', so solutions are routinely found in recruiting

advertising, training, and improved personnel administration. Rarely, are the principles and relationships that shape the 'system' questioned as to whether they are 'fit-for-purpose'. Consequently, the same personnel (human capital) issues recur.

It is likely that as the human capital agenda progresses, stress in the policy environment is likely to be evident through difficulty in achieving policy outcomes, which will be manifest first in debates about the quality and utility of administration and service delivery performance measurement systems. Under-performance or failure in the human capital administration or service delivery will be a lead indicator of policy failure. The seemingly intractable problems in health, education, child protection, homelessness, and geographic social disadvantage are all areas where administrative and delivery failure is driving significant policy reform.

The transactional based model of service delivery has some capacity to cope with variation at the margins of the process but there are limitations to the extent of customisation to meet the specific demands of the problem. Mainly, this is because the responsiveness of the responsible government agency is always defined in terms of the existing administrative or service delivery system. To be successful in achieving the integrated policy outcomes that are central to the human capital agenda will require a different relationship between the government and the public that will be mediated by the way the services are delivered by the responsible agencies.

In a pure sense, a relationship-based approach puts the concepts of human capital (competitiveness and resilience) and the public (its capacity and capability) at the centre of the government service delivery system. The public (including business) becomes an active participant in solving Australia's human capital challenges. This contrasts with the transactional approach that sees the public as so many 'cattle' to be deftly corralled by centrally managed policy, administration and delivery. As management writer Peter Drucker noted: '[I]n the

knowledge society, the most probable assumption for organizations—and certainly the assumption on which they have to conduct their affairs—is that they need knowledge workers far more than knowledge workers need them'.⁸⁵ In a globally mobile labour market, the stark reality is that Australia needs skilled Australians more than skilled Australians need Australia. Consequently, in developing Australia's human capital there must be a change in the relationship between government and the public.

So, to advance the strategic goals of human capital, government leaders will need to capitalise on two trends that are already evident: first, that the public already has access to more information than in the past (and is more sophisticated in its use); and second, the role of service delivery agencies will be to organise information in ways that assist members of the public to define the human capital services they need. In education, the Deputy Prime Minister has defined this change in administrative and service delivery logic, 'I...absolutely reject the idea that rich performance information about schools should be confidential to government and denied to the parents of children in schools and the taxpayers who fund schools'.⁸⁶ This view of information re-structures the relationship between the government, the department and parents of school-age children in order to improve educational outcomes. The department is the strategist providing information to parents that will assist them in making informed decisions about their children and developing services to meet their needs. The power in the relationship between the parent and the educational service provider has shifted dramatically. There are lessons in this for all government agencies, including those that comprise the national security community.

⁸⁵ Peter Drucker, 'The Age of Social Transformation', *The Atlantic*, 1994, p.71.

⁸⁶ Samantha Maiden, 'Julia Gillard pledges transparency of school performance', *The Australian*, 24 November 2008, <<http://www.theaustralian.news.com.au/story/0,25197,24696731-5018473,00.html>>.

THE EMERGING HUMAN CAPITAL SYSTEM

Increased synchronisation and integration means that the underlying sources of problems and issues are not confined to the boundaries of one department or area but rather are experienced simultaneously across departments. While the characteristics of the problem may play out differently in, for instance, Education, Health, Welfare and Immigration (or Defence, Policing, Customs and the intelligence services) the foundation issues will be the same. Consequently, the impact of events will be synchronised across government. There is no longer a closed system of policy, administration and delivery in government business.

The government administrative and delivery system required to grow Australia's human capital, at a minimum, needs to be capable of understanding, incorporating and adapting to multiple, and shifting perspectives. If it is accepted that the foundation of any administrative or delivery reform will be the dynamics of the relationship between the government agency and the community, then the emerging system might have the following characteristics:⁸⁷

- *System Design.* It must be adaptive, as both the human capital problem and the relationship between the government and the public changes over time. The key requirement is the ability to access and analyse quality information to make good quality decisions.
- *Partnership.* Any relationship-based capability must be built on the idea of a partnership that has both the government agency and the public as part of on-going problem definition and solution. The transactional-based view of administration and delivery creates a functional and restrictive relationship that stifles innovation and change. The idea of a partnership

⁸⁷ Brendan Sargeant, 'A Possible Strategic Framework for the Development of, and Participation in a National Service Delivery System', 2009, (unpublished).

creates a more open relationship between agencies and the public that allows a broader range of resources to be made available.

- *Transparency.* Access and information are central to quality partnerships. So, quality information must move seamlessly across government and between the government and the public. The transactional-based management model restricts information flow and withholds information. In part, this helps the agency to maintain power in the relationship; however, it also reduces the opportunities for partnership.
- *Integrating policy development and delivery.* Policy (what is needed), and administration and delivery (how it will be accomplished), are two elements of the one idea: the desire to bring about and sustain change. Policy becomes more complex when integration is a core criterion. Consequently, effective evaluation becomes the vehicle for managing that integration and exercising strategic control.
- *Focused capability building, not target-setting.* The strategic and operational performance outcome in this system is the degree of relationship capability. The performance measure is the nature and degree of change as a result of the use of that capability. Performance in a relationship-based system is concerned with the capacity of that relationship to create decisions that affect change. There is more value in this context in focussing on outcomes – the nature of change – as an indicator of capability than in focussing on targets. Targets, if not positioned and managed carefully, can degrade capability by creating inappropriate incentives or distorting the functionality of the relationship.
- *Accommodates Local Variation.* If the administrative or delivery capability is built through relationships, then there will be variation in solution sets. The

management of this variation will be a defining strategic issue because it challenges long-standing design principles of the traditional transactional-based management model.

- *Connected and Adaptive.* An open and transparent approach would encourage communication within the network of organisations charged with delivering on the Australian Government's human capital agenda. This would be a government network that has an improved capacity to understand and adapt to the environment.

IMPLICATIONS OF THE EMERGING HUMAN CAPITAL SYSTEM ON GOVERNMENT AGENCIES

An embryonic human capital system is emerging in response to the increasingly unmanageable consequences of discontinuities in the prevailing transactional-based approach. System-wide solutions are now being sought for a range of human capital issues from skill shortages and education deficiencies through to child protection and social disadvantage. The government must be able to work the policy, administration and delivery system hard enough to deal with future challenges. Government agencies must be more responsive and adaptable to the human capital agenda. There is a need to recognise and foster the system architecture that will support Australia's ability to create, adjust and deploy human capital more effectively.

The system design and regulation, including the principles for growth and development, must align to the twin strategic goals of human capital: international competitiveness and social resilience. The following points summarise the elements of this argument:

- The Australian Government is the strategic change agent driving the transformation of Australia's human capital. How effectively government agencies respond

will determine the future capability and performance of Australia's human capital.

- The prevailing transactional approach to policy, administration and delivery is based on twentieth century concepts of standardisation, consistency and function. While these remain valuable there is a growing need for different approaches that accommodate customisation, differentiation, integration and relationship.
- The government is becoming more demanding, has greater choice and more complex needs. An approach to developing Australia's human capital that offers a standardised solution will fail to meet these changing expectations. So, government agencies will need to develop the infrastructure and content suited to an environment of increased competition, changing demand, and unbounded or 'wicked' problems.
- In response to changing public expectations, Government demand is more volatile and all agencies must be agile in anticipating and meeting demand. This will require greater openness, collaborative problem-solving and information transparency.
- The ersatz human capital system lacks strategic and operational flexibility. It will come under significant stress in attempting to deliver the government's human capital agenda. So, the government will need to drive not only policy reform but also substantial administrative reform program to achieve its human capital goals.
- Government agencies must find a way to breakthrough the 'efficiency plateau' of the existing system. Traditional responses to the performance plateau have been either through the introduction of game-breaking technology or efficiency gains from reducing complexity, improving processes or increasing quality. Moving from a transactional- to a

relationship-based management model has the potential to dramatically shift human capital strategy, policy, administration and delivery.

Australia's human capital challenges loom as a complex long-term challenge that is continually changing. It demands a more coherent, comprehensive, coordinated, agile and anticipatory response than the prevailing system of policy development, administration and delivery is likely to be able to provide. The challenge is complex because it involves increasing interdependence and demands a system-level response to ensure that all the activities of the various government agencies can be complementary, mutually reinforcing, proportionate and cost-effective, rather than dispersed, uncoordinated and inefficient. Nor is the problem peculiar to Australia or the challenges of human capital. Many of these issues are playing out in different areas of government activity across the world, including the development and growth of human capital in the national security community. Evidence for the general themes identified here can be found in areas as diverse as the Australian Government's response to the challenges in education, health and welfare and the United Kingdom's recent observations on cyberspace threats and responses.⁸⁸

A system-level approach to human capital is a strategic response to the risks associated with continuing with an isolated and piecemeal management method. Furthermore, it opens up additional possibilities for addressing the problem that extend beyond seeking further efficiencies from the existing system. The challenge for the Australian Government and its administrative and service delivery agencies is to remain alert to the changing shape of the challenge and ensure that it has the strategy, policy, administration and delivery capabilities to adapt and respond.

⁸⁸ See Paul Cornish, Rex Hughes and David Livingstone, *Cyberspace and the National Security of the United Kingdom: Threats and Responses*, Chatham House, London, March 2009.

Conclusions and Recommendations

The risks and challenges to Australia's human capital have increased through exposure to globalisation, tighter economic and social networks, and technology-dependence. Increasingly, problems in one of these areas can readily cascade to others. This demands a broader appreciation of the interdependencies within Australian society and across the agencies that deliver the government's ambitious human capital agenda. And, it is not just the physical and technology dimensions that will be important. The psychological and social dimensions will be equally crucial. The Australian Government will need to adopt a more anticipatory and entrepreneurial approach to policy, administration and delivery across government agencies.

The key points of this report are that:

- The Australian Government is the strategic change agent driving the transformation of Australia's human capital. How effectively government agencies respond will determine the future growth, capability and performance of Australia's human capital.
- Through the National Security Statement (NSS), the Australian Government makes a clear link between economic performance, human capital and national security.
- The NSS draws attention to the requirement for Australia to maintain economic competitiveness through 'our fundamental capacity to advance economic prosperity for all Australians', and social resilience through the preservation of 'Australia's cohesive and resilient society and the long term strengths of our economy'.
- Together, international competitiveness and social resilience offer a comprehensive strategic goal for Australia's investment in its human capital.

- Australia must also remain a politically, economically and socially attractive destination for both skilled migrants and young Australians by providing the opportunity for all Australians to work, live and prosper in a secure and democratic country.
- A decline in the stock or flow of Australia's human capital represents a significant danger to national security.
- Externally, globalisation and technology are driving an increasingly open, mobile and global labour market. Advanced and developing nations are confronting significant demographic shifts. There will be significant and complex interplay between these demographic changes that will have ongoing national security implications.
- Internally, Australia's national strategic posture has relied on maintaining a technological edge against credible regional threats to offset a relatively small population. The increasing sophistication of these technologies will ensure that to remain safe Australia's security will be dependent on access to a scientifically and technically literate population.
- Recent assessments show that while Australia's educational system is performing relatively well compared to other OECD nations there are worrying signs of decline.
- The quantitative human capital challenge is to attract and retain sufficient skilled people in a global labour market to remain economically competitive.
- The qualitative challenge is to improve the overall quality of Australia's human capital through improved outcomes in education, health and welfare.
- Australia should adopt an 'inside-out' approach to human capital strategy which acknowledges that long-run national competitiveness and resilience come from

the quality and agility of the 'national administrative system'. It is this system that creates the conditions in which people and business can quickly adapt to changing global conditions.

- The extent to which the 'national administrative system' is fit-for-purpose is more critical to shaping and developing Australia's future human capital than any single short-term policy initiative.
- The concern is that the existing 'national administrative system' has reached the limits of its ability to address Australia's future human capital challenges.
- It may be necessary to rethink the relationship between human capital strategy, policy, administration and delivery in order to maintain the security advantage that Australia has established through its significant investment in human capital.
- The current economic crisis may temporarily mask the more immediate human capital challenges Australia is facing. However, there is considerable weight in the trajectory of demography, globalisation and technology that will remain undisturbed by current events. Consequently, there needs to be a stronger focus on the persistent future of Australia's human capital.

A common theme from national as well as international experience is the importance of governance and accountability arrangements to whole-of-government reform agendas. There are early signs that the Australian Government is seeking, wherever possible, to align policy, administration and delivery. In some cases, as with the National Security Statement and the appointment of a National Security Advisor, the government has made changes to the administrative system to support the delivery of shared strategic goals across the whole system.

Human capital is an equally important policy agenda. Again, the government has made changes that support integrated policy development and delivery. For example, the Deputy Prime Minister is responsible for a significant proportion of the human capital agenda. Similarly, the COAG's National Human Capital Reform program provides important opportunities to coordinate federal and state government policy and delivery. However, while these provide immediate opportunities for improvement; sustained and innovative reform will be required to deliver Australia's optimal long-term human capital outcomes.

A fundamental shift in ways of working is required to drive administrative and delivery reform that has human capital as its primary focus. This will require clear political endorsement, as well as substantial coordination and collaboration across the relevant agencies. A key challenge is to ensure that any coordination and collaboration mechanisms do not become overly bureaucratic and that agencies retain responsibility for results and autonomous operation while also contributing directly to the shared strategic goals of human capital: competitiveness and resilience. There is a danger that the focus will be on lower-level indicators of success or on achieving exclusively quantitative performance measures. This approach—a common tactic for those seeking to resist strategic change—will undermine the quality of the human capital outcomes and the direction of reform. The human capital challenges Australia is facing do not have a historical precedent, so the solutions will require innovative thinking and action.

The primary conclusions and recommendations from this study focus on driving long-term reform in the national administrative system that will deliver the Australian Government's human capital agenda. However, similar reforms are also needed within the national security community.

REFORM THE NATIONAL HUMAN CAPITAL SYSTEM

The key recommendation is to appoint a Senior Executive in the Department of Prime Minister and Cabinet to be the focal point for collaborative leadership on the government's human capital objectives. This position would be responsible for developing a Human Capital Implementation Strategy. The strategic focus would be on maximising Australia's international competitiveness and social resilience through innovative human capital policies.

This position would coordinate the integrated reform of government service delivery, lifting productivity and participation through a sustained investment in human capital, and foster a 'culture of innovation' in Australia's approach to human capital development.

- Key objectives of the Human Capital Implementation Strategy would be:
 - *Aligning the Policy and Administrative Reform Agenda.* Establish a structure and group with roles and responsibilities for ensuring that the focus remains on the strategic agenda, which is charged with identifying opportunities for innovative reform, and for encouraging learning and change across government agencies.
 - *Assigning Accountability for Policy and Administrative Reform.* Successfully implementing the human capital agenda will require clear accountability arrangements. Often agency accountability frameworks are applied in a way that focuses too much on tactical outputs and lower-level indicators rather than strategic or shared policy outcomes. Without changes to the way the accountability framework is applied, the gap between policy reform and administrative reform will only widen. While the strategic human capital outcomes may be difficult to measure precisely there must be a process for formally considering

progress against them as strategic goals. This must extend beyond the familiar quantitative targets that are prevalent at the point of service exchange in a transactional-based model of government service delivery.

- *Identifying Opportunities for Cross Agency Collaboration and Knowledge Transfer.* The group charged with developing and implementing the human capital blueprint would work to improve the processes by which government agencies acquire, share and deploy knowledge about human capital growth and development. Facilitating knowledge transfer increases the likelihood that the agencies will think innovatively about how to close the gap between policy and service delivery reform. If knowledge remains locked within agency boundaries then the innovative capacity of national administrative system is reduced.
- *Fostering a 'Culture of Innovation' in Human Capital Policy, Administration and Delivery.* Innovation in human capital policy, administration and delivery will be central to Australia's ability to make a step-change in its approach to achieve integrated policy outcomes and shared strategic objectives. This might include:
 - Identifying and supporting innovation in public sector policy, administration and delivery.
 - Overcoming obstacles to radical public sector innovation by providing the equivalent of 'venture capital' to seed innovative human capital initiatives.
 - Act as a 'knowledge hub' to bridge the communications gap between policy, administration and delivery.

- Develop metrics for innovative human capital policy, administration and delivery in order to allow comparison across public sector agencies.
- *Encouraging the Emergence of the 'National Human Capital System'*. Encouraging the emergence of this system to support the government's human capital reform agenda should involve four areas of transformation:
 - A strategic transformation in goal setting and planning.
 - An operational transformation in the key human capital focal areas such as education, health, immigration, welfare, participation and productivity but also increased connection between these capabilities and non-traditional considerations.
 - A technical transformation that continues to reform and integrate back-end efficiency in government processing but also improves public accessibility to government information. Information access is already restructuring the relationship between government and the public. Providing greater access to information has the potential to accelerate and deepen the relationship and is likely to be central to strategies to improve Australia's human capital innovation.
 - A service delivery transformation that sees the public service move toward increasing its focus on the more intractable and complex problems of Australia's human capital development. As the majority of the transactional work is automated, consideration will need to be given to the human capital the skills and capabilities that public servants will require.

IMPLEMENT A HUMAN CAPITAL STRATEGY IN THE NATIONAL SECURITY COMMUNITY

The NSA must be an advocate for reform in the National Human Capital System as well an activist in reforming the human capital practices in the national security community. The NSA could adopt the strategies suggested above for reforming the National Human Capital System, and thereby become a lead agent of public sector reform. However, there are also specific recommendations that might apply to the national security community.

- *Understand the Place of Human Capital in the National Security Reform Agenda.* There must be a broader appreciation in the national security community of the connection between expenditures on human capital and overall national wellbeing, and the consequent implications for national security: for instance, international competitiveness, national adaptability, social cohesion and resilience. The increasing importance of human capital for national security means that the types of challenges Australia is facing in the long-term are entirely novel: for example, the ageing population and declining working age population. In the past, the continued competitiveness and resilience of the Australian population was not a planning consideration. Increasingly, it is likely to assume greater significance. The challenge for national security planning will be how it can turn its traditional thinking inside-out in order to harness the continuities and discontinuities in human capital. The key features of Australia's current human capital trajectory pose major challenges for national security. In the long-term, they represent real constraints on Australia's ability to respond to threats.
- *Conduct an Audit of Human Capital Policy, Administration and Delivery in the National Security Community.* The traditional levers of human capital management and development are not well suited to

managing the complex and interdependent human capital problems facing the national security community. For example, the Defence White Paper will pose significant human capital challenges not only for the Defence Department but also for the entire national security community. At present, the management reflex of individual agencies is to adopt an isolated and vertically-driven issues management approach to human capital. In complex systems, these approaches lead to unintended and often negative consequences. A human capital audit would provide the foundation for a National Security Community Human Capital Implementation Strategy that acknowledges the interdependence of:

- organisational capabilities,
 - skills shortages, development and growth,
 - interventions to improve human capital, and
 - rewards and incentives that shape culture.
- *Release Human Capital Capability with Technology.* The capacity for individual and organisational flexibility will become increasingly dependent on the intellectual and social capital of the national security workforce. So, just as there is a need for a technical transformation reform in the back-end efficiency of the broader National Human Capital System, there is also a need for the national security community to continue to aggressively pursue technological solutions that increase processing efficiency and the productive capacity of the workforce. This must be done selectively and with a full understanding of the interrelationships between technology, institutional culture, organisational structure, and work organisation.

ABOUT THE KOKODA FOUNDATION

Purpose

The Kokoda Foundation has been established as an independent, not-for-profit think tank to research, and foster innovative thinking on, Australia's future security challenges. The foundation's priorities are:

- To conduct quality research on security issues commissioned by public and private sector organisations.
- To foster innovative thinking on Australia's future security challenges.
- To publish quality papers (*The Kokoda Papers*) on issues relevant to Australia's security challenges.
- To develop *Security Challenges* as the leading refereed journal in the field.
- To encourage and, where appropriate, mentor a new generation of advanced strategic thinkers.
- Encourage research contributions by current and retired senior officials, business people and others with relevant expertise.

Membership

The Kokoda Foundation offers corporate, full and student memberships to those with an interest in Australia's future security challenges. Membership provides first-release access to the Kokoda Papers and the refereed journal, *Security Challenges*, and invitations to Foundation events. Membership applications can be obtained by calling +61 2 62041822, and downloaded from:

<http://www.kokodafoundation.org/Joinindividual.html>