

**“POPULATE
OR STAGNATE:
AUSTRALIA 2050”**

The following are extracts from an address entitled “Population Trends”, by the Most Reverend Dr George Pell, Catholic Archbishop of Melbourne, given at a Distinguished Speaker Luncheon on Friday, 5 May 2000, at the Sheraton Towers Southgate, Melbourne.



The Most Reverend
DR GEORGE PELL
Catholic Archbishop of Melbourne

Writing in the early part of the 20th century, the British thinker Aldous Huxley prophesied a brave new world, in which science and “human engineering” would re-shape world society, albeit at a terrible price to humanity.

We are now at the beginning of a new, highly technical, century, where Huxley’s concerns of two generations ago are starting to develop an eerie resonance. Particularly with regard to declining birth rates in the Western world and the likely effect this will have on society and the world economy.

For several years past, I have publicly expressed my fears that Australia cannot hope to hold this island continent with only 19 million people. To the north, we have gigantic Asian neighbours. Some have had limited success in curbing their birth rate and several have no desire to do so.

In Australia, we have a land mass roughly equal to that of the USA, minus Alaska; admittedly up to two-thirds of this desert or semi-desert. But we have an entire population, which is less than the number of Catholics in Mexico City. And we still have a few voices calling for a reduction in Australia’s population!

The reason for this seems to be a national consensus, formed over the past century, that Australia has limited resources, which cannot support increased population growth.

Professor Anthony Chisholm of La Trobe University recently observed that resource deficiencies need not set population limits in economies that are open to change and technology. That, I submit, is an accurate description of the current Australian economy.

In a paper for the Business Council of Australia, Professor Chisholm says: “Estimates made in 1975 by CSIRO scientists are based on present per capita consumption trends. Assuming that proven technology in 1975 is used, they estimate that Australia could feed 60 million people (82 million today) at existing per capita food protein energy consumption levels, without excessive risk of agricultural instability or undue environmental risk”.

Taking its cue, the Business Council of Australia recently stated that it is in our national interest to reverse the steady decline in our population growth rate.

The Council has now developed a program to stimulate national debate on population and has set, as one of its priority policy issues, the development of a Population

Policy for Australia. The Council will sponsor a major conference on population in November this year.

I commend the Business Council of Australia for these initiatives. For I believe the declining birth rate has dire implications, not only for the Australian society and economy, but also for the world.

In this country, the birth rate has been steadily declining since 1960, which marked the peak of the past war baby boom. And the decline is accelerating. Between 1992 and 1997, for example, the fertility rate declined almost six percent, which is mirrored in several European countries.

Nor can we rely on our immigration policy to balance the decline in our natural population increase. Professor Graeme Hugo, of the University of Adelaide, points out that net migration gains in Australia in the post-war period have accounted for only 40 percent of national population growth over that period.

Thirty years ago, uncontrollable population growth, together with the threat of atomic war, seemed to be one of the two major problems and talk of a population explosion is still heard today in some quarters, particularly among radical environmentalists.

We now know that by the late 1960's, the world's population had already commenced its long and steady slide to zero population growth and to the negative population growth - that is, depopulation - that lies beyond that point.

In the decade from 1965 to 1975, world birth rates decreased by 13 percent, with decline occurring in 127 countries.

In 1996, the United Nations forecast zero population growth for the world as a whole by 2040 with population peaking at 7.7 billion, an increase of less than two billion people on the current world population of 5.9 billion.

Thereafter, population will decline by 25 percent in each successive generation, giving an expected world population in 2100 of 5.6 billion.

This anticipated decline in population does not factor in the results of war, famine, environmental disaster or epidemics such as AIDS.¹ It is a product of a drastic decline in fertility which will unfold, to use the language of the UN document, "under conditions of orderly progress."²

This dramatic fall in fertility is occurring in the context where people are living longer and longer, a corollary of the "health explosion" modern people are so fortunate to enjoy³. The combination of low fertility and longer lives will mean "a radical ageing of the human population - a shift whose magnitude would be without historical precedent."

In 1900, the global median age was about 20 years, not much more than what it had been in all other areas. By 2040 it will be over 42 years. Germany and Japan have the oldest populations in the world today with a median age just under 40. By 2050 however, the population of the developing world will have a median age of 41.

The pattern of our Brave New World is fast emerging - couples are having fewer children later in life and many women are choosing to remain childless, sacrificing family for their careers. And as fertility rates are falling, the populations of many countries are rapidly ageing.

Consider the example of Oshima Island.

Oshima is a small Japanese island, 32 kilometres long, cradled between the large islands of Honshu, Shikoku and Kyushu. There we can confront the future. We might call this the price of our success; perhaps even the wages of sin.

The local Buddhist minister, Reverend Niiyama, sees it differently. "It is not a wolf which is attacking us. It is what we always wanted. By that measure, this island has the most advanced society in Japan. This is the life that all Japan will have in the future."

Whatever our verdict, Reverend Niiyama is correct on the long-term trends and their consequences. With Germany, Japan has the most quickly ageing population in the world, because the Japanese are living longer and having fewer and fewer children. Their fertility rate has fallen to 1.39; a rate of 2.1 children per woman is necessary to keep the population stable.

Oshima is the Island of the Old, with the oldest population in the country, with the most aged population of all. The barber with the cutthroat razor is 84 years of age, as is the papergirl. The taxi driver is only 83 years old and the policeman a sprightly 60 year old.

In the town of Towa, at the eastern end of the island, octogenarians outnumber teenagers by more than three to one, septuagenarians by seven to one, half the population is over 65. Towa had a population of 20,600 in 1945; fifty-five years later the population is 5,500.

Although the trends in Oshima have been worsened by youth emigration for work, Oshima is not a social aberration, a development that goes against the current. Following present patterns Japan's population will be halved by the end of the twenty-first century - and so will Western Europe's!

Pressures of population continue in many parts of the Third World, but there is no easy correlation between population density and poverty.

Hong Kong and South East England are among the most prosperous corners of the globe.

Fashionable concerns with over-population elsewhere (it is always easier to be concerned about distant moral problems, far from home) have obscured the darker side of population - the decline that has already started in the Western world.

Population growth in the developed world will peak by 2013 and will then begin a rapid decline, so that by the end of the twenty-first century the population in Western Europe and Japan will be half its present size.⁴ Russia is already in strong decline, the population there falling 800,000 in 1999 alone.

In 1950 the developed world accounted for 24 percent of the world's population. In 2050 it will account for no more than 10 percent.⁵ In that year, not a single



European state, including Russia, will match the Philippines in total population.

If this happens as predicted it will represent an enormous shift "in the balance of global power".⁶ Falling fertility rates and increasing longevity will provoke continual and radical change in our economies.

Social security systems and welfare funding, superannuation funds and standards of living in retirement, the cost of health care and health insurance, and more generally, the composition of the labour-force and the tax base will all be affected.

When people from the developing world immigrate to the West, they generally tend to continue the family practices of their native cultures. This means that, for at least a while, they enjoy higher rates of fertility than the host population of their new homelands.

As a consequence, the ethnic composition of the developed countries, like Australia, is also set to change in a dramatic way. Note that I said dramatic, which does not imply "for the worse".

Not to put too fine a point on it, Australia is now the most ethnically diverse country in the world, with more than 70 ethnic groupings living in harmony. The benefits of having this polyglot population are evident in every aspect of our culture - from our food, music and sport to our newly assured internationalism in business and world affairs.

Foreign immigrants currently make up approximately ten percent of the population of many European countries. If current immigration rates continue, this proportion is likely to rise.

This trend, coupled with higher fertility rates among immigrant populations, will create a situation in Germany, for example, where "by 2030 foreigners will comprise 30 percent of the total population and over half the population of major cities like Munich and Frankfurt."⁷ In Austria, the new right-wing government is the beginning of a response to this. In Europe, there are now 10-13 million Muslims, seven million in France alone - equal to the number of church-going Catholics in that country.

However, it is not only the shape of societies that will change. As couples have only one or two children - or none at all⁸ - the family itself will be drastically narrowed and lengthened in its shape. If the trends in those countries with the lowest fertility rates - Italy for example - continue, then within two generations more than three in every five children will have neither brothers and sisters nor aunts, uncles or cousins."

Projecting the fertility rates of the European Union over two generations only slightly alters this scenario. "About 40 percent of European children would have no collateral blood relatives [and] less than one sixth would have brother or a sister and a cousin."⁹

The genealogical tree "will be all stem and no branch." At the same time, the increase in life expectancy "will make the tree taller." While the number of children and grandchildren will fall, the number of great grandchildren will rise, as the four-generation family becomes commonplace.

In summary, the size and longevity of the baby boom cohort will ultimately give rise to "an unprecedented great grand-parent boom."¹⁰

It is important to bear in mind when considering these data that population decline and global ageing are not hypotheses.

They are trends that are currently underway and the predictions that are made based on them are "about as close as social science ever comes to a certain forecast."

Unless a dramatic and unexpected change in current patterns occurs, these predictions will become reality.¹¹ "Demographers know of nothing that is likely to reverse [this] long-term fertility decline" which, with the exception of the post-war baby boom in the West, has "been underway for well over a century."¹² However, such unexpected developments do occur. For example, demographers in the 1930s entirely missed the post-war baby boom. Likewise, in the late 1950s, they entirely missed the "baby-bust" of the 1960s and 1970s. Both cases led them to predict precisely the opposite of what actually occurred.

Some are optimistic about the developed world's capacity to cope with the changes I have foreshadowed. They suggest that the problems created in these areas are unlikely to be insuperable.

Demographic forces, they say, may be no more than a secondary factor in overall economic performance.

After the Second World War, for example, West Germany flourished economically despite having to forcibly absorb millions of refugees."

By comparison, to this dramatic kind of demographic shock, the challenges posed by a population gradually ageing, then declining, may seem hardly worth worrying about.

Some economists even contend that declining fertility rates actually has the effect of lowering investment needs and increasing living standards.

"The declining birth rate has dire implications, not only for the Australian society and economy..."

Recent work by historians considering the impact of the massive fall in population in Europe in the wake of the Black Death captures an important aspect of this question.

By one estimate, the population of Europe was reduced by two-thirds in the period from 1320 to 1420. The dramatic decline in population, so it is argued, freed Europe from “the suffocating pressure of population” – which is alleged to be the cause of the “indefinite stagnation” that commenced at this time in Asia and continued into the late nineteenth century – and set the continent on a course of development and expansion that has still not reached its end.

More importantly for our immediate purpose, it also had the effect of creating a labour shortage among the survivors, bringing about both higher wages and a powerful stimulant to technological development.

Diets improved, social mobility increased, and ownership of land became easier. In short, the fall in the “supply” of people also brought about a rise in their “price” or value.

Extrapolating from this, Joel E Cohen has speculated that a similar result may follow the emergence of negative population growth next century:

“When it can no longer be so easily assumed that there will be plenty more people to come, then assuring [sic] that people have the political and economic capacities sufficient for food, education, health and a meaningful life may take on greater urgency.”¹³

Against these optimistic prognoses, however, there are other possibilities.

In its 1998 Declaration on the fall in fertility, the Pontifical Council for the Family raised the question of how an increase in a population’s mean age might affect its psychological profile.

“Moroseness,” which the Declaration describes as “the lack of intellectual, economic, scientific and social dynamism and reduced creativity,” is likely to be a conspicuous feature of elderly societies, and may “already be at work” in those countries leading the trend.¹⁴

In Australia, depression is already a significant problem costing \$5 billion a year nationally. The main author of a UN report on which the Declaration draws, Jean-Claude Chesnais, Director of Research at the French National Institute for the Study of Democracy, puts this point simply: “You cannot have a successful world without children in it.”¹⁵

This point is dramatically illustrated in P.D. James’ novel “*The Children of Men*” (1993), which is set in 2021 in a world where universal male sterility has not seen a child born for over a generation.

The American social critic Gertrude Himmelfarb has also pointed out that almost certainly the family in the Western world will undergo a “second” revolution to deepen the impoverishment it has suffered after the first revolution that is “reflected in the statistics of divorce, illegitimacy, single-parenthood and cohabitation.”

“In addition to the fatherless family,” Himmelfarb writes, “we now have to worry about a family without peers.”¹⁶

The family “has been the primary and indispensable instrument for socializing people”, but in a world where the vast majority of children find themselves without brothers and sisters, cousins, uncles or aunts, the “extended bonds of obligation and [the] reciprocal resources – including emotional resources” that play such an important part in a child’s life and development will be enormously diminished.

The nuclear family is sometimes criticised for its failings compared to earlier forms of family arrangement, but

“the nuclear family does not begin to approach the limits of social atomisation which may await us in a depopulating world.”¹⁷ Already in mainland China with its ruthless “one child” policy, there is concern over the long-term behaviour of the “little princes”, the pampered single sons.

It is important to remember that Western population decline is not “a strange historical accident”, but the product of the “affluence, individualism and secular progress that the vast majority of the world’s population seems to welcome.”¹⁸

It is certainly connected with the changes in thinking and living produced by feminism (in Australia more women have permanent (or full-time) work than men) and influenced too by the spread of the homosexual movement.

There can be no doubt that for most Westerners at least, low fertility and long life represent a wish come true. This is exactly how many want things to be.

As Germaine Greer – who was educated in Catholic schools in Melbourne – the author of *The Female Eunuch*, has pointed out, the Western world does not like children.

“Historically, human societies have been pro-child; modern society is unique in that it is profoundly hostile to children. We in the west do not refrain from childbirth because we are concerned about the population explosion or because we feel we cannot afford children, but because we do not like children.”¹⁹

It is not just a matter of the science, technology and material abundance of modernity making low fertility possible. The deeper question is why so many have chosen to use these blessings for this particular end.

Government interventions to promote fertility have met with mixed success. Several European countries tried to boost the birth rate by granting child bonuses, tax, medical and educational benefits, and soft housing loans for newlyweds. The aim was to encourage couples to have more children.

In the 1960s and 1970s, certain European countries mounted an all-out fertility campaign which included restricted access to abortion, generous maternity leave, cash incentives for each birth and subsidies of various kinds for each child’s clothing, support and schooling. In many cases, the cash incentives were high in comparison to the basic wage.

The main effect of all these incentives was to alter the timings rather than the number of births.

As Professor Graeme Hugo points out: “the international ranking of countries according to their fertility levels matches their ranking on the extent of which they facilitate the employment of mothers in the paid workforce and the extent to which gender equity applies within the family. Hence, English speaking and northern European countries tend to have higher fertility levels than elsewhere in Europe”.

The lesson Australia can draw from all this is that women must be given real options for having children and returning to work, part-time or full-time, or simply continuing to work. We should also encourage women who want to care full-time for their children, especially when they are young, by making it financially possible for them to do so.

At present, Australian women who wish to work have only two real choices:

- Have children and withdraw from the workforce, with a resultant loss in income and seniority, or
- Concentrate on a career, maximise income and remain childless.

According to Professor Hugo, both government and industry need to launch a number of initiatives which should aim at giving women what men now enjoy – the choice of having both children and a full-time career. I believe this is like having your cake and eating it. Children need time and love, especially in the years before school, but also for many years afterwards.

Finally, I would like to point out the very real link between children and hope. For in children and hope lies the future of families and the nation.

In his UN report, Jean-Claude Chesnais highlights a hitherto neglected element in demography, “the ratio between pessimism and hope experienced by populations.” He argues that fertility will continue to decline until “there is a change of mood, ... a shift from present pessimism to a state of mind which could be compared to that of the ‘baby-boom’ era.”²⁰

Chesnais argues “the trivial interpretation of the baby-boom as a response to economic growth does not hold; the real crucial change was the change in the state of mind, from mourning to hope.”²¹ This was certainly true of Cambodia in the early 1990s after the fall of Pol Pot, a country I visited three times.

The economy improved very slowly, but Phnom Penh was teeming with smiling children. However, when we reflect on other conditions of our situation – conditions which Chesnais himself notes, such as “the decline of Puritanism and the victory of materialism (hedonism, cult of consumption, American way of life)”²² – it is clear that a change of mood from pessimism to optimism will continue to face formidable obstacles.

Christians are people of hope, champions of life for today and tomorrow, but none of us can choose the times in which we live and die. Apparently, a Chinese curse is that one should live in interesting times. We are on the brink of even more interesting times in the struggle for life, immersed in mighty forces of social, indeed global change, which are largely beyond our control. ■

“...it is clear that a change of mood from pessimism to optimism will continue to face formidable obstacles”

¹ Since 1980, 16.3 million have died from AIDS. In sub-Saharan Africa life expectancy is seven years less because of AIDS. This region has 70% of those infected with HIV, and 13.7 million dead from the disease. In Asia, there were 1.4 million new infections in 1999 and it is spreading into Papua New Guinea. World Health Organisation & UNAIDS *Epidemic Update: December 1999*, 1999.

² United Nations (Dept of Economic and Social Affairs, Population Division) *World Population Prospects: The 1996 Revision*. In these UN studies, projections are always given in the form of “low,” “medium,” and “high” variants. I have cited the low variants throughout, following the practice adopted in the expert commentary consulted in preparing this paper. The UN itself recommends the use of the medium variants, but describes each of the variants offered as “provid[ing] reasonable and plausible future trends.” For the sake of completeness, the low, medium and high variants offered in the *1994 Revision* and the *1996 Revision of World Population Prospects*, together with the variants in the (as far as I can ascertain) as yet unpublished *1998 Revision* (available at www.unpop.org/popin) for world population in 2050 are as follows:

1994	7.9 billion	9.8 billion	11.9 billion
1996	7.7 billion	9.4 billion	11.2 billion
1998	7.3 billion	8.9 billion	10.7 billion

³ Peter G Peterson *Gray Dawn*. Times Books, New York: 1999.41.

⁴ *Ibid.* 50.

⁵ *Ibid.* 52.

⁶ Eberstadt 52.

⁷ Peterson 55

⁸ Latest Australian figures indicate that 16 percent of women are having only one child, and 22 percent are having none at all (ABS figures cited in *The Age*, October 12, 1999).

⁹ Eberstadt 55.

¹⁰ Peterson 57.

¹¹ *Ibid.* 59. It is important to note as well that the predictive power – to say nothing of the record – of social science is poor, although this is often a function of the assumptions on which predictions are based, rather than the methods by which they are made. On this, see Eberstadt 50: “Mathematical demography is an elegant and sophisticated construct: supplied with the necessary assumptions it can generate detailed and internally consistent population projections. Those assumptions, unfortunately, are precisely the sticking point.”

¹² Peterson 60.

¹³ Joel E Cohen “Bright Side of the Plague.” *New York Review of Books*, March 4 1999.

¹⁴ Pontifical Council for the Family *Declaration on Decrease of Fertility in the World*. Rome, 27 February 1998. Published in *L’Osservatore Romano* (English language weekly edition), 16-22 April 1998.

¹⁵ Quoted in Peterson, 247 n19.P.D. James provides an imaginative (and extreme) illustration of the moroseness that attends life in a world without children in *The Children of Men* (1993). The novel is set in 2021, in a world which has not seen the birth of a child in a generation owing to an unexplained and universal male sterility. The inescapable sense that the world is winding down and the effects this has on those remaining are well-drawn, but zero or negative population growth do not quite mean a world without children. Eberstadt (at 55) has observed that as fertility in the modern world is falling, so too is childlessness. Although an increasing number of couples remain childless voluntarily, sub-replacement fertility primarily means that almost everyone will have a first or second baby if they can, but very few will seek a third.

¹⁶ Gertrude Himmelfarb “The Ghost of Parson Malthus.” *Times Literary Supplement* January 23, 1999.

¹⁷ Eberstadt 55.

¹⁸ *Ibid.* 63.

¹⁹ Germaine Greer *Sex and Destiny*. Secker & Warburg, London: 1984 p.2.

²⁰ Pontifical Council for the Family *Declaration*

²¹ Jean-Claude Chesnais *Determinants of Below-Replacement Fertility*. Expert group meeting on Below-Replacement Fertility, Population Division, Department of Economic and Social Affairs, United Nations Secretariat, New York, 4-6 November 1997.

UN/POP/BRF/BP/1997/2, pp. 3-17. Cited in Pontifical Council for the Family *Declaration*.

²² *Ibid.*

In recent months the issue of Australia's population has become a topic of debate again and the need for us to have a population policy is being argued. Both sides of politics have acknowledged the importance of the issue and their respective spokesperson have contributed articles to this volume.

Population, its size and makeup, and the integral aspect of immigration policy, have been important and sensitive issues for much of our history. There are those who fear migration as a threat to Australia's well-being, as a cause for more unemployment, as a drain on our welfare.

On the other hand we have those who argue that migration has very positive outcomes – creating economic activity by way of additional investment and demand, adding to the cultural diversity of the nation, and creating additional jobs.

After World War 2, with a population of around 7 million we took in 180,000 immigrants a year. We now take in about 80,000, and our population is 19 million.

Unless we change something in the current settings we are going to see a declining growth rate over the next 40 years and our population may stabilise at around 23 million. Is this sustainable in a global context?

Some proponents for much increased immigration argue that by 2050 Australia should have a population of 50 million people. There is clearly room for debate between these extremes.

It is claimed that low fertility is the principal limiting factor in increasing our population, so immigration alone is not likely to be the answer. We have the problem of an ageing population. This is compounded by an increasing life expectancy. This raises new problems.

By 2028 the number of workers for each retiree will plummet from six to three. The economic burden of supporting this scenario can only be alleviated by an influx of young workers or a dramatic rise in productivity. Otherwise our standard of living will inevitably fall. So whilst immigration is not the answer it certainly is an important part of the solution.

But size and make-up is not the only problem. The question is where do we put the additional people. The Premier of New South Wales has said recently that Sydney is at capacity. So where will they be settled and how do you keep them there?

Our long-term social, cultural, and economic development cannot be separated from our population and immigration policies. Governments play a critical role in this arena and it is vital therefore that there be vigorous debate on what is best for this country.

**PROFESSOR
ASHLEY
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**The Hon
PHILIP RUDDOCK**

MP, Minister for Immigration and Multicultural Affairs; Minister assisting the Prime Minister for Reconciliation

Australia currently has a high population growth rate (1.3% in 1998-99) compared with most developed nations. Our growth rate is higher than that of any of the European Union nations. For example, in 1997, the UK rate was 0.3%, France was 0.4%, Greece was 0.2% and Sweden was 0.04%. Our population growth rate is significantly more rapid than Japan which has a growth rate close to zero. It is about the same as that of Canada and higher than that of New Zealand and the United States. On the basis of current projections, our population growth rate is likely to remain one of the highest in the developed world for many years to come.

Because of the demographic transition to below replacement rates of fertility that all developed nations are experiencing, the population growth rates of all developed nations are projected to decline over the next 50 years. The population of many European Union nations and Japan is projected to decline in absolute terms over the next 10 to 20 years. The populations of Germany and Italy are projected to be possibly 10% to 20% less in 50 years compared to today.

By contrast, Australia's population will continue to grow for at least another 50 years.

If our fertility rate declines to around 1.65 children per woman by the end of this decade (currently around 1.75); life expectancy continues to rise gradually; and net overseas migration averages around 70,000 per annum through each economic cycle (in 1998-99, it was over 100,000 and is projected to be around the same in 1999-00 and 2000-01), we are likely to see our population reach at least 23-24 million during the second half of this century.

By the second half of this century, the size and structure of our population will have stabilised. I prefer the term stabilise to stagnate as all populations must, from an ecological perspective, eventually seek to reach stability. There is no evidence that a stable population means stagnation from an economic, social or cultural perspective. Given our below replacement fertility rate, a stable population for Australia, indeed for every developed nation, will require a significant level of immigration and interaction with the rest of the world. Australia is of course well placed with our long-standing formal immigration programs and policies. Many developed nations are already seeking to learn from our approach both to the management of immigration programs and associated settlement policies.

Many environmental groups consider that Australia's current high rate of population growth is not ecologically sustainable. They have suggested we

should seek to reach population stability more quickly. This is a serious issue and it is for that reason that I have commissioned the CSIRO to examine the environmental impact of population growth. Nevertheless, it is not an issue that we should be alarmed about, partly because we are on the path to reaching population stability and partly because of our increasingly sensitive approach to environmental matters that continue to evolve. It is also important to recognise that seeking to drive down our current immigration program would involve very significant economic and social costs.

In contrast to the views of most environmentalists, business groups have indicated concern about the prospect that our population growth rate will begin to slow during this century and that our population will become much older. These are also serious issues and ones that we must continue to research so that we can make sure we have the right policies to manage the consequences. I say manage the consequences because the slowing of our population growth rate and the aging of our population is inevitable. There is little prospect of fertility rates returning to above replacement levels although we must continue to pursue family friendly policies that help to minimise any further declines in fertility. Demographers have clearly demonstrated that there is no practical level of immigration that can prevent aging of the population.

Long-term Prospects for Australia's Immigration Program

A strong immigration program will remain as critical to our long-term future as it has been to our past. However, it must be a program that is delivered with the highest levels of integrity and consistency of approach if it is to gain community support. This has been a cornerstone of my approach to immigration.

The Government has maintained a generous Humanitarian Program that seeks to assist those in greatest need. We have also maintained a strong commitment to the entry of close family (ie genuine spouses and dependent children), via both the Family

Stream and by providing for complete family units of skilled and business migrants via the Skilled Stream. The entry of extended family, however, will continue to be limited to those that have a

reasonable level of skills and/or are able to support themselves or be supported by their sponsors.

A strong Skilled Stream is of course critical to making sure that immigration has a positive economic and budgetary impact. To gain community support for immigration, we must be able to demonstrate clearly and unequivocally that the Skill Stream is delivering significant benefits to Australia. It has been with this in mind that I have made sure that we take a rigorous approach to the selection of skilled migrants.

The changes that have been made to the general points test used to select most skilled migrants has been significantly overhauled. The new test clearly delivers young migrants who have strong English language skills and with qualifications recognised by the relevant professional bodies in Australia. The new test is highly

"...will ensure that we as a nation never stagnate, even if our population growth rate slows."

effective in targeting skills in demand such as information technology, accounting, nursing and engineering. The new test is also more transparent such that processing times have been reduced from an average of over 13 months to an average of around 3 months. Approval rates have increased from around 50% to around 90%.

A significant feature of the new test is the advantage it provides to successful overseas students who may wish to migrate to Australia. Around 50% of successful migrants under the new points test are former overseas students. This has provided for significant complementarity between our overseas students program and our immigration program. It has given our overseas students program a major competitive advantage as well as providing an incentive for overseas students to focus on studying rather than other activities.

It has been the success of the new points test that has enabled the Government to increase the size of the Skilled Stream in 2000-01.

But a focus on permanent migration would be to miss the bigger picture. Our permanent immigration intake is increasingly being supplemented by the entry of long-term temporary residents, overseas students, working holiday makers and short-term visitors.

Australia has one of the most streamlined arrangements for the entry of long-term skilled temporary residents. This has led to a significant increase in the numbers of these people. While this population is one that is constantly turning over, it is very much the way of the future given the increasingly mobile nature of skilled people. These people form a significant portion of Australia's current high population growth rate.

Our overseas students program has weathered the Asian economic crisis very well and has now resumed its earlier growth rate. As long as we make sure the program has a high level of integrity, we can expect it to continue to grow. Governments and education providers continue to work together to make sure this is the case. This is amply demonstrated by the recent reforms to the overseas students program that the Government has announced.

In 1999-00, the number of working holiday maker visas issued will be the largest on record. It will grow further in 2000-01 after the signing of a working holiday maker agreement with Germany. These working holiday makers are an important part of Australia's tourism industry which itself is now again growing at a very strong rate. Over 4 million visitors will come to Australia in 1999-00. This number will also grow in the year of the Olympics and beyond.

Despite our relative geographical isolation, Australia has, on a per capita basis, one of the highest levels of people movement across our borders. The constant movement of people that our permanent and temporary immigration arrangements provide, as well as the extent to which Australians travel overseas for a variety of reasons, will ensure that we as a nation never stagnate, even if our population growth rate slows. ■

THE HON
KIM BEAZLEY

MP
Leader of the
Opposition



Australia needs a long-term population strategy. And that is why Labor is developing such a plan.

I have been advocating a population policy for a long time because I believe it is a vital element in preparing Australia for the 21st Century. So I welcome any public debate on these issues.

In advocating this debate I have sometimes felt like a lone voice. Sadly, debate on population issues has been a victim of the short-termism and narrowness that has characterised Australian political debate these last four years.

As Labor Leader I want to re-establish a national consensus around investment in public goods and good policy in this country. Australia needs to continually invest for its future. And it needs to invest in the policies and infrastructure which secure and enhance our future.

My goal is to build Australia into a Knowledge Nation. It is about investing now, for the future. A population policy, based on the medium to long term and on community consensus, is such an investment. So also are sound economic policies; acknowledgment of education as a public good; a strong public health system; decent income support; and strong national defence arrangements.

An Australian population plan demands strong national leadership if it is to be a success. Such a plan must be a set of policies which addresses a wide range of issues. Labor's population policy will focus on the following:

- recent and future trends in our birth rate;
- size and composition of our migrant intake, and where they live upon arrival;
- workplaces that enable real choices and flexibility for families;
- investing in our people and places, through education and training, and regional development policies.

Too often governments have been reticent to publish a comprehensive population plan because of the perceived potential for controversy.

But Labor is developing such a plan because we firmly believe that Australia will benefit from a larger population which is part of a well coordinated strategy.

- a higher population which takes account of environmental pressures and constraints can help us achieve a higher sustainable level of economic growth, with the consequential benefits in employment and a higher standard of living;
- if combined with well focussed regional policies, a larger population and programs to encourage skilled people and businesses into rural and regional Australia, can also help us build, revitalise and sustain the regions;
- a larger population of people with a mix of cultures improves the quality of life for all Australians. It also improves our ties with the rest of the world, and strengthens our leadership role in the international community; and
- most importantly, a larger working-age population can help us to afford the extra costs of an aging population.

We understand that the best approach to achieving a higher population is a balanced one – one that looks both to immigration, and to family-friendly policies designed to boost our national birth rate.

Immigration

I believe that higher immigration has a major role to play in our population policy.

- Positive net immigration will contribute to total population growth; and
- It provides an opportunity to address two constant issues confronting Australia:
 - Workforce bottlenecks in particular skills; and
 - Attraction of new investment, new entrepreneurs and new skilled workers into rural and regional Australia.

Of course, use of immigrants to plug the gaps in skills is not a satisfactory long term situation. Australia must train our existing population – especially the unemployed – for the jobs of the future. This is why Labor has always emphasised investment in education, training and employment programs as crucial parts of any population policy.

To encourage new migrants to move into specific areas Labor is examining the potential to offer incentives for people to relocate outside our major cities, such as in South Australia. For such encouragement to be successful, there must be jobs and opportunities for them and their families, and the economic and social infrastructure to keep them there.

Australia's aging population and our birth rate

One of the motivations for a population policy must be to lessen the impact of an aging population. And Australia needs to move quickly.

Today, there is one Australian of retirement age for about every 5 Australians of working age. Assuming current levels of net migration continue in the future, in the year 2021, there will be one for about every 3^{1/2} working age Australians. And by 2051, the ratio will be one for every 2^{1/2}.

While these trends are daunting, we must not be too alarmist: higher productivity makes it easier to support an aging population. However, our birth rate is perhaps the most powerful instrument we have to slow and eventually reverse the decline.

Australia's birth rate is now at an historic low and is projected to fall further in the near future. Without some measures to improve our national birth rate, it is projected to fall from 1.78 in 1997 to 1.65 in 2006.

Family policies

Policies to improve Australia's birth rate not only address the aging of our population in the future, they also contribute to a better society right now.

I firmly believe that improving Australia's birth rate is about strengthening Australia's families. It is about family friendly policies which can help people manage the social and economic changes around them.

The best way to make it easier for families to have and raise children is to give them improved choice and flexibility in balancing work and family responsibilities. That choice between a career and a family is not a win-lose one. A modern, responsive government will help Australians to move between both throughout their lives.

Combinations of work, study, family and leisure will be increasingly important as we see an expansion in part-time employment, new forms of community sector employment and the need for retraining between jobs. Countries – such as France, Sweden and Norway – that ease the transitions into and out of the workforce, and allow people to maintain their careers, have higher birth rates. On the other hand, the countries with the lowest birth rates (such as Italy and Spain) are those in which government policies and social norms reinforce outdated notions of the traditional male breadwinner family.

It is important to choose the right mix of policies and the most cost-effective. Labor has already flagged some of the family policies under consideration that would become components of our population policy.

1 Family income: Our plan, which we took to the 1998 Election, for tax credits for working families, would ensure Australian parents are rewarded for working and acknowledges the extra costs facing working families.

Labor is examining options to introduce more flexibility in payment of family allowances, so that one parent can afford to stay at home during the early years of a child's life.

2 Family support services: Labor is studying early childhood and parenting centres, linked to child care centres, to provide a place in the community where parents and children can learn family and parenting skills together.

3 The workplace: unlike the current Government, Labor is committed to making Australian work practices more family-friendly.

In summary, developing a population policy is an ambitious plan but one that is vital for Australia in the 21st Century.

Sadly, the Howard Government has marginalised itself by declaring there is no need for a national population plan, but I am heartened that so many people in the community, and in business, have chosen to join in this debate.

We believe all stakeholders must be brought together regularly, because this debate raises important questions about how we see the future of Australia.

Labor is developing an integrated strategy so that Australians can benefit from a higher population. ■

POPULATE OR STAGNATE IS A REAL CHOICE FOR AUSTRALIA



By

**BRIAN
JAMIESON**
Chief Executive Officer
KPMG Australia

*Australia is unique
as the only country to
claim sovereignty over
an entire continent.*

In addition to a vast mainland, we control several offshore islands – and surrounding territorial waters – including Norfolk, Christmas, Cocos (Keeling), Macquarie, Heard and MacDonnell. Even the ‘reefs’ Ashmore and Carter, sitting between the North West Shelf and the island of Timor, are fully-fledged Australian territories. And this excludes our suspended claim to two separate slices of Antarctica.

Australia currently supports all of these claims with little more than 19 million people, representing 0.3% of the global population.

Of course, the Australian continent is not a continuous expanse of arable land. Around four million square kilometres – more than half of our total land area – is the parched “outback”. This area supports a population of just 190,000, despite more than two centuries of determined effort to colonise major parts of our interior region.

However, even allowing for the inhospitable nature of more than half our continent, Australia remains sparsely populated. And looking into the future, the “under population” of our continent relative to the rest of the world is expected to become greater as populations in other parts of the world grow faster than our own.

Yet there appears no particular reason we should allow this to happen. We inhabit a continent with abundant natural assets – mineral and agricultural – and our nation has a healthy stock of intellectual capital, particularly in the areas of science and commerce.

By all reasoning we should do more with these assets and create the growth that can support a larger population base.

The desire to make better use of Australia’s these assets has certainly driven many schemes over the past century to boost our population.

During the 20th Century, the Pilbara was mined and the Kimberley’s Ord River was dammed. Much earlier, the Murray Irrigation Scheme effectively watered the Riverland. And much later, the Snowy Mountains Scheme generated electric power and redirected irrigation water to the Riverina. Whole towns blossomed with a resources boom: Mt Isa with copper, Kalgoorlie with nickel, Mt Tom Price with iron ore. The exploitation of offshore oil and gas reserves had an ‘osmosis effect’ on nearby coastal settlements: Victoria’s Sale services Bass Strait, and the Western Australia’s Karratha services the North West Shelf.

By the latter decades of the 19th Century, the wheatbelt had advanced to the margins of the Outback, and especially in the northern reaches of South Australia. By the middle of the 20th Century, these wheatbelt towns and others in the Murray-Darling Basin and in the better-watered coastal strip, burgeoned with people brought in by Soldier Settlement Programs.

However, the inland of Australia and vast tracts of our coastline have so far resisted all attempts to develop them into areas that can support large populations.

In fact, much of the territory carved from inland Australia is now being yielded by a later generation. A process of demographic erosion has occurred across the Australian wheatbelt since the 1970s, brought on by the combined pressures for economies of scale (where one farmer buys out the neighbour) and the demands of youth for higher education and training and broader job prospects.

The trend is clearly documented in the latest KPMG Population Growth Report, prepared every year by Bernard Salt. It cites the example of the West Australian wheatbelt township of Perenjori, inland from Geraldton, which has lost 49 per cent of its population base since 1976. Over the same period the number lost from the Shire of Buloke in the Victorian Wimmera dropped 35 per cent. The Shire of Carnamah located adjacent to Perenjori lost nearly eight per cent of its population base in a single 12-month period to June 1999. These losses are not one-offs but are sustained over decades, and there is no sign of the losses abating much less reversing.

As if pushed and pulled around the continent by the land itself, Australians have more recently advanced along the length of the eastern seaboard creating settlements based on the new concepts of leisure, lifestyle and retirement. Hervey Bay located 120 km north of Noosa in Queensland has quadrupled in population since 1976, as indeed has the coastal township of Mandurah 80 km south of Perth. The harsh interior of our continent has effectively allowed only minimal and/or temporal settlements designed to tap unique resources, such as Roxby Downs in South Australia.

The net effect is that the modest number of Australians is ‘manoeuvred’ from one part of the continent to another. Not quite in the seasonal nomadic sense of the original inhabitants, but nevertheless nomadic by the measure of our predominantly European values. It’s almost as if we are adrift within the island continent, being buffeted from one corner to the other. Perhaps it is the very nature of the Australian continent.

The need for greater population growth in Australia can also be viewed from an external perspective. By that, I mean we have an obligation to rest of the world – not just to ourselves – to make more effective use of the abundant resources of our vast continent.

Consider these forecasts. By 2050, our share of global population is projected to reduce by around one third, based on the average level of immigration through the 1990s.

The Australian Bureau of Statistics estimates that by 2051 the Australian continent will contain somewhere between 23 million and 28 million, depending upon immigration levels. Medium assumptions of around 80,000 immigrants per year, combined with falling birth rates (and death rates), result in a forecast population of 26 million by mid century. This would represent 0.2% of the expected global population of 12 billion in 2051, as forecast by the US Census Bureau.

During the 1990s, the average level of immigration to Australia was 75,000 per year. If Australia was to add the same number in the second-half of the 21st Century as forecast in the first-half, then our number will stand at about 31 million by 2100. The world total at that time will be 18 billion, with Australians comprising barely 0.17%.

While a smaller share of the global population is not necessarily a negative development for Australia, the sheer size of the shrinkage is a matter for concern. It seems inevitable Australia would have a diminished place in the world if current trends continue. Furthermore, it will occur at time when the pressures of population growth among our near neighbours will become acute.

This will undoubtedly lead to questions about the effectiveness of our use of the natural assets we have in such abundance.

Viewed from any perspective, I believe Australia is faced with the very real choice to either populate or stagnate as we enter the 21st century. ■

11
**ANY ROAD
WILL TAKE
YOU THERE
(if you don't
know where
you're going)**

THE POPULATION DEBATE

The debate about Australia's future population levels has, in the past, attracted the best arm wavers and short term pundits that the nation can muster. We in the CSIRO Resource Futures Program are part of that melee, so far without a three match suspension for contradicting the referee. Ecologists wring their hands and bemoan the parlous state of the nation's land, water and biodiversity resources. The housing industry sees that more people means houses and this must be good. The business lobby representing the 'tubs, taps and tiles' economy, proposes lofty ideals on national defence, a place in world affairs and required economies of scale in a globalised marketplace. Politicians of all persuasions change views rapidly as campaign funds for the next election are promised, or withheld.

Continued overleaf...

We are on record as seeing good justification for achieving a more or less stable population some 1-2 human generations away (Doug Cocks: People Policy: Australia's Population Choices University of New South Wales Press 1996). The main reason for our position is that relative population stability might allow the nation to deal with issues of quality, rather than quantity. The nation's press and its academic literature are full of the problems that affront us, but note that the scale and diversity of a nation's enterprise generally permit only small isolated revolutions to occur and that most of these are fairly marginal. We surmise that a nation that has stopped growing on the margin might have the brain, the time, the investment capital and the enterprise to start refurbishing the capital stocks of the nation. Thus we could rebuild from first principles rather than plastering over the cracks of age and the subsidence due to poor design of another era when horses and steamships still ruled.

Part of the problem pertaining to the population debate is that economic growth depends on population growth under the current sectoral structure and function of the Australian Economy. Bruce Bacon from the Treasury's 'Retirement and Income Modelling Unit' decomposes the annual growth rate of 3.9% for the last 15 years into population effect (1.7%), participation rate (0.1%), employment rate (0.2%), average hours (0.3%) and productivity (1.6%). Thus without population growth, a Treasurer of whatever persuasion on Budget night would be scorned as she/he lauded an anticipated growth rate in GDP of 2% for the next financial year. The real challenge for those who desire to partake in the promise of the new economy, rather than repeat the lessons of the last 50 years, is to develop the concept of a new national economic structure and function which lifts productivity to, say, 3.3%, while ensuring adequate employment and social equity. If this happened, population growth could then become optional rather than obligatory and thus open to disinterested and rational debate. The germs of such radical concepts might come from lateral thinkers in the nation's tertiary education infrastructure if they are encouraged to think such thoughts. Most government journeymen and business leaders are too busy merely staying afloat and meeting their quarterly reporting requirements to think such thoughts.

In order to desist from our own arm waving and criticism of the status quo, we have attempted to move into future design, and into testing future options for population and lifestyle issues in a more numerate way. Moving from arm waving into running the numbers has required the development of a nationally scaled modelling framework which describes how the nation works in physical terms. We've called this *The Australian Stocks and Flows Framework* and it ensures that all the big ideas we test are subject to real physical laws such as those pertaining to thermodynamics, mass balance and demography. Thus future population options such as, "shall we have 20, 25 or 32 million people by 2050?" can be examined for the many opportunities and problems that each option presents. We are currently testing some of these options in a collaborative project with The Department

of Immigration and Multicultural Affairs. Central to the process has been a series of 16 workshops where we invited policy and technical experts from business, government and non-government organisations to peer-review and critique our modelling approach and the assumptions contained therein. The draft workshop reports are available on our website and contain a wealth of insights for any decision maker concerned about the nation's future. (http://www.dwe.csiro.au/research/futures/working_document_2000_series_number_00/03).

Our analytical efforts have opened our eyes to a wide range of complexities that, in all honesty, had been lurking in the mist well away from our key interest in future population stocks and how such might affect Australia's environmental quality. Rather than focusing just on the problems inherent in any population level, we have tried to expose big ideas that might make tidy fortunes for Australian companies if they can crack the concept, the design and the implementation. Generally, cracking the concept produces a good environmental outcome whatever the population level. However making major changes becomes mandatory under higher population scenarios. Most of the concepts are big integrative ones that have to solve a wide range of technical, institutional and political problems. Although the challenges we have identified relate mostly to the physical economy and environment, they require brain rather than brawn and perspiration for a successful outcome.

Ten Fortunes to be Made by 2020

Environmental degradation is largely due to increasing rates of energy use and increasing rates at which physical materials are passed through the economy. Behind these immediate causes lie population numbers, our affluent lifestyle and economic growth. Here are ten fortunes which are waiting to be made by 2020 by recognising this basic relationship in various ways:

- Build a motor vehicle acceptable to the Australian market which uses 3 litres of fuel for every 100 kilometres travelled.
- Design an affordable house, acceptable to the new home buyer, which produces 50% of its own energy and water requirements.
- Design and market housing subdivisions which produce 50% of their own energy and water, and treat 50% of their own waste within their own boundaries.
- Establish a public or private transport corporation which finds a way to reverse the 5:1 ratio of private to public transport for journey to work and suburban travel.
- Establish a corporation which implements a carbon-neutral biomass-based fuel cycle for meeting the national need for liquid transport fuels and distributed regional electricity plants.
- Set up an advertising agency which successfully sells the concept of an integrated design for lifestyle and affluence which has embodied within it, 30% of today's usage on a per capita basis, of energy and materials.
- Found an economic research bureau which finds out how, at the level of the whole economy, to reverse the energy rebound effect under which increases in

energy efficiency simply stimulate further energy use elsewhere in the economy.

- Float an investment bank that finds a way to make investment in natural capital (water catchments, soil quality, natural rivers, biodiversity, native forests, clean airsheds) attractive to both short-term and long-term investors.
- Create a utility company (water, gas, electricity, waste services) that finds a practical route to a product mix and operational mode that allows it to grow in financial terms while reducing its sale in physical units of water, gas and electricity by 10% a year.
- Plan a catchment-based farming region where rivers flow at 70% of their natural levels and stocks of yellow belly and Murray cod return to their pre-1850 levels, even as the value of the region's irrigated production keeps increasing.

Challenges to Education

The final challenge is to the readers of this BHERT newsletter. Our Resource Futures group in CSIRO is made up of an eclectic group of ecologists, physicists, energy analysts, economists and others. Whenever we enter the job market to recruit a new staff member we are looking for someone who can cover the entire physical economy, someone who can integrate across disciplines, someone who can write, talk and garner influence, and someone who is good on numbers and equations. Such are indeed a rare breed and few people respond to our job advertisements. There are few university professors and departments which make it their business to deal with the theory and practice of humankind's influence on our nation's, or our globe's future. There are few market signals to educators to stimulate the training of the next generation of integrators and analysts who can deal with the entirety of our physical economy. Our colleagues in quantitative economic analysis find much the same thing. While the accessibility and scope of the tertiary education sector has increased substantially over the last generation, our experience of the tertiary education sector suggest a 'dumbing down' of skills in the technical analysis and understanding of how the physical economy functions.

Living up to the rhetoric of a 'sustainable future' or a 'clever country' requires a nation that has the ability to analyse future options and to help government and business to deal with the implications posed by whatever future population level and composition we collectively judge as desirable. The alternative is best expressed by that old saying, "If you don't know where you're going, any road will take you there". ■



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POPULATION POLICY - AN ISSUE FOR THE PRESENT

There is probably no more compelling policy area on which we should take a long-term view than population policy.

It is difficult for Australian Governments to concentrate on the long term. Federal elections are held on average every two and a half years. Intervening State and Local Government elections mean that there are at least annual political popularity contests which tend to focus our political leaders minds on the immediate rather than future challenges.

But it is vital to the health of Australia that the challenges posed by our population issues are confronted in the present. Waiting and seeing is simply not an option.

There are a number of crucial issues facing Australia and the rest of the world over the next 50 years which need to be confronted now. In Australia's case these include the influence of our demographics on our ability to maintain and improve our high standard of living; to increase our economic growth; care for an aging population; capitalise on our rich cultural diversity and ensure future development is sustainable whilst correcting our environmental mistakes.

The first three of these issues are intrinsically linked. It goes without saying that the maintenance of our high standard of living will only be possible through continued economic growth. I have referred to these issues separately because population issues impact on them individually as well as collectively. For instance, the composition of our population as between dependant and supporting members will have a direct bearing on our economic growth.

Likewise demographic factors such as education and skill levels impact on both our demand for a certain standard of living and our ability to sustain it.

Looming ominously over these issues is our greying population. The baby boomer generation, so much the engine of economic growth of industrial societies for the past half century, will with age, be the greatest single drain on the wealth of those societies over the next fifty years.

This will be both because of the impact of their leaving and thereby reducing the workforce as well as the extensively documented demands of dependency.

Data published by the Business Council of Australia shows old age dependency ratios – the ratio of those aged over 65 to those aged 15 to 64 – will rise from 19% in 2010 to 24.6% in 2020.

Medical advances, increased affluence and healthier lifestyles mean life expectancy continues to rise. The Department of Immigration's published mortality assumptions are based on life expectancy rises over 100 years of 81.6 to 89.7 years for females and 75.9 to 84.5 years for males.

Australia along with the other "immigration" countries, Canada and the United States, is in a better position than the rest of the OECD in respect of dependency. However, we cannot afford to wait until we reach the projected levels of Italy (30.4% in 2010 and 36.4% in 2020) and Japan (32.3% in 2010 and 42.0% in 2020) before taking action to at least retain our current proportion of workers.

Despite the shift towards self funded retirement through superannuation the burgeoning aged population over the next 50 years and the demands it will place on the economy for continuous growth lead inevitably to the need for an increased population.

Measures required include a combination of increased immigration and practical support measures which make it less difficult to raise families thus encouraging an increase in fertility rates.

I will digress here on the subject of increased immigration to endorse an argument of the Business Council of Australia supporting the expansion of the family reunion component of our immigration program.

Whilst there is undoubtedly a need to increase the number of skilled migrants, as the BCA have shown there is doubt over whether a skill points system as applied in Australia is the right tool to secure a higher proportion of skilled migrants.

Comparison with the United States, which relies almost entirely on family reunion policies, is not supportive of the current Australian approach. On average Asian migrants to the U.S. have 18 months more education than those to Australia.

Certainly we need to ensure our migrant intake is well skilled and we are in a buyers market – at least currently – with over one million applications to migrate received annually. However migrants with family support are more likely to settle successfully and a stronger emphasis on family reunion policies would benefit Australia in the long term.

Having digressed into immigration policy I would like to return to the issue I believe lies at the core of our future population policies: fertility.

Demographers refer to fertility as one of the three inputs to population along with mortality and immigration. As mortality rates are expected to improve and immigration has only a limited impact on our population, fertility is the most important factor in the population paradigm.

Australia's fertility rate has declined in every year since 1972. Our fertility rate is half that of the baby boomer generation. At a minimum it is imperative that we halt this declining trend. By increasing our fertility rate we can achieve the dual goal of increasing our population whilst decreasing our dependency ratio.

Whilst the suggestions of some political leaders to the young and fertile to increase their procreation may be well intended, more concrete support is required.

“...practical support measures which make it less difficult to raise families thus encouraging an increase in fertility rates.”

Governments must look at the hard and expensive options of increasing family support such as child-care and practical before and after school care. The reality of both parents working is here to stay. Such assistance must recognise this.

Comparative studies of family assistance policies and fertility rates of advanced countries show that where government policy discourages women from participating in the workforce or through taxation measures encourage women to stay at home and rear children rather than work, the fertility rate is actually likely to decline.

Policies to encourage fertility must focus on today's families, not target mothers. Measures in some advanced countries that present women with one of two choices – a career or to rear children – have led to disastrous falls in fertility as today's women clearly choose to pursue careers. Business must also play its role by providing family friendly and flexible work arrangements to both carers.

The policy challenges of fertility are not restricted to our own fertility rate. Declining fertility rates in other advanced countries will have direct longer term impacts on Australia regardless of the measures we take to arrest our own declining fertility rate. Skilled labour shortages in Europe will lead to increased competition for skilled migrants opening alternative markets to the historical "immigration countries". These markets will not only reduce the number of skilled migrants wanting to come to Australia but will attract Australia's own skilled workers further depleting our skilled human resource and increasing our dependency ratio.

Immigration within its current settings is not the answer to population growth. Indeed increased immigration levels would only partially assist in increasing our population and have little impact on dependency ratios. There are two reasons for this. Firstly immigrants tend to adopt the fertility patterns of

the country to which they migrate. Secondly whilst immigration policies seek immigrants of child bearing age the demographic impact of family reunion policies in particular are such that a broader range of age groups are reflected in our immigrant population.

Whilst increases to the immigration levels remain worthwhile in our efforts to decrease dependency levels and fill skill shortages the thrust of our population policies should be a broad suite of measures embracing immigration and pro fertility measures. More emphasis must be placed on the latter.

The impact of population policy on our need for long term environmental sustainability cannot simply be viewed as a question of carrying capacity. A reduction in our population will see a reduction in our economy and growth levels. This in turn would reduce our capacity to pay for both future sustainable development and remediation of our past mistakes. Population and other policy settings such as planning and land use policies must focus on avoiding past environmental mistakes and remedying their current and future impacts.

In an ever smaller world, countries must play to their strengths. An inherent strength of Australia is the breadth of our cultural diversity. With over 140 ethnicities Australia is one of the most culturally diverse societies in the world.

The immediate advantages to trade are obvious. In addition to our wide range of international personal contacts our workforce has an extraordinary range of language skills and enhanced cultural sensitivity and adaptability. My own company has been advantaged in our extensive international operations by these abilities.

From our diversity and immigration experience we are better able to adapt to change than many of the homogenous societies with which we compete. Our ability to adapt to change will be advantageous to us over the next century.

The challenge for us in population policy terms is to focus on the changes we can predict and seek to achieve the most desirable outcomes for Australia as a market and a society by adjusting our policies in a pro-active way. ■



RICHARD HEIN

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(The following is extracted from a paper by Glenn Withers, AO, Professor of Public Policy, Australian National University, and former Commissioner of the Economic Policy Advisory Commission, 1991-1996, which appears on the web site of the Business Council of Australia, www.bca.com.au).

AUSTRALIA'S NEED FOR A POPULATION POLICY

Australia's need for a population policy has economic, social and global dimensions. The demographic forces behind population change are very strong, however they are not beyond the influence of government through its administration of migration in particular. The consequences of restricting migration levels would be felt throughout the next century.

The forces that change our population are natural increase and migration. The natural increase is the outcome of the balance of births and deaths. A total fertility rate of 2.2 would be required for the population to replace itself. The Australian fertility rate is 1.85 children per woman. Australia has had below-replacement fertility rates for more than twenty years, and this shows no sign of turnaround. The infusion of youth into our population structure has therefore been declining for some time. The capacity of natural increase to sustain population increase is collapsing. Mortality has also been declining.

Since the Second World War average life expectancy has increased by a year for every five calendar years. The average life expectancy has risen from 75.6 to 78 in the last ten years. Changing life conditions and medical knowledge indicate that this trend to increased longevity will continue.

The mortality pattern has two implications. As the baby-boomers reach the end of their (extended) lives, population growth will decrease. At the same time both the present and future population will be an ageing one. The size and age of the population is also affected by migration.

Since 1981 the annual inflow of migrants has varied from a low of 68,800 in 1984 to a high of 145,000 in 1988. The outflow peaked at 31,000 in 1991, with a low of 18,100 in 1986.

Migrants tend to be younger than the resident population, with a median age about five years lower than the general population. Migration has therefore helped to retard population ageing for Australia. Migration as a proportion of the population has been reducing over the post-war period, and thus its contribution toward increasing the total population and reducing its demographic ageing. This is because inflow numbers have not kept pace with base population increases.

Future Projections?

If we held birth and death rates at present levels, zero net migration would generate a population of 20.5 million by 2031, thereafter declining. By contrast, a net migration scenario of 100,000 (compared to the '90s average of 75,000) would generate a peak population of 25.5 million by 2031, thereafter remaining about that level for the rest of the 21st century. But even with net migration at 100,000, the under-25 population of Australia would decline from 40% of the population in the 1980s to under 30% by 2031.

A ... target ... of 30 million, could be achieved by fixing a constant net migration rate of a little more than 0.5% of population which translates to a current base of 100,000 growing gradually over time.

Economic Benefits

The potential economic benefits from sustained or enhanced population growth are substantial. Immigration-driven population change can:

- drive expansion of output;
- increase domestic demand;
- provide a skilled and flexible workforce;
- foster entrepreneurship;
- encourage innovation and technological transfer;
- develop trade links and international integration;
- support change and challenge rigidities;
- improve the value and return on capital;
- expand business and job opportunities;
- spread the costs of overhead requirements;
- through a growing economy, encourage the purchase of more modern, technologically advanced equipment.

A more buoyant, expansive and outward-looking economy brings widespread economic benefits.

Without the migrants and children of migrants over the post-war period, our GDP would be more like \$260 billion than \$530 billion today. Migrants and their children have provided almost 60% of the post-war growth in the Australian workforce.

Migration influences per capita income in a range of ways. It can increase the available capital per head of population, in part by attracting foreign capital to a growing economy.

Further, migration can increase workforce participation rates and reduce unemployment. It can enhance the average skill level of the workforce and increase economies of scale. It can foster innovation and flexibility because migrants are characteristically entrepreneurial, especially in small business, as they face the need to set up in a new society.

It is not always the case that population growth increases average income. For less-developed countries especially, larger population can depress average income, until their capital and policy infrastructure can support it. However in the case of Australia, with its infrastructure, resources and policies, and in relation to population increase through selective migration, improvements in average income can be achieved.

This skill issue is particularly important since it has been well established that the immigration program provided a major net "brain gain" to Australia. Even more importantly, the average skill level for arrivals (and departures) has long been much higher than that of continuing Australian residents.

It is worth remembering that the average Australian born resident would not pass the points test for migrant entry into Australia.

Social Benefits

Under present trends:

- the population aged 65 and over will increase by 100,000 a year in the decade to 2031 (compared to 50,000 a year in the 1990s);
- population share aged 65 and over will rise from 12% in 1997 to 22% by 2031.

The prospects through to the middle of the next century are for a major escalation in aged dependency for Australia. The bigger impact will not emerge for 20 years or more, but the demographic parameters that will drive that outcome are in place or being established now. The implication of these trends can be expressed in relation to aged persons per working age person: six working-age persons per one aged in 1990; and three working-age persons per one aged in 2031.

The aged-to-worker ratio will double. The ratio for over-85s will quadruple.

The impact of an older population will:

- reduce labour force participation and labour force flexibility as the workforce itself ages and the proportion of people retired increases;
- reduce savings and investment as older persons use their savings and spend less on housing and education and more on current consumption, including personal care;
- raise social expenditure by government, especially in health, pensions and aged care services;

- reduce taxation revenues to government as taxable incomes fall in retirement and increase government outlays on health and social security, threatening to produce deficits.

Three further factors must also be considered:

Immigration composition ... if immigration age structure (and fertility) are varied as well as or instead of intake numbers, significant additional effects on retarding the process of population ageing may be obtained.

Immigration rates The standard demographic procedure... projects immigration by constant absolute levels. An alternative is... immigration scenarios given by constant rates... these brought a substantially greater benefit to aged dependency ratios...

Dependency costs In judging "significance" of an age-share reduction it is also important to go beyond "head-counting" and to also consider "bean counting". In fact, the fiscal impact of small demographic percentages can be large. This is because, in the present context, older persons on average:

- incur three to five times the social expenditures of other demographic groups, including children; and yet
- contribute only 1/4 to 1/3 of the total direct and indirect tax payments per capita compared to demographic groups of working age.

This means that a few percentage points' difference in a population share can add up to larger implications for public outlays, budget deficits or tax rates, and hence for shares of GDP relevant to support of older Australians and for tax and expenditure burdens for future generations.

The evidence given above indicates that immigration (both level and composition) can reduce aged dependency costs substantially. Immigration can only be one part of a more comprehensive policy for population ageing, especially for retirement incomes, health care and family support.

Global and regional positioning

a) Trade and innovation. Since the late 1970s business and industry have been able to draw on the skills and networks of a diversified community when building trade and investment links with global and regional markets.

Based on a longitudinal sample of 1497 business migrants matched against comparative Australian business data from the ABS, Access Economics found that:

Business migrant firms have a consistently better rate of exporting, with very small firms, in particular, exporting 10 times the value of the equivalent sized Australian firms; Business migrant firms tend to be larger employers within each size category than their Australian counterparts, rising to an average of 80% more in retailing; Business migrant firms have a considerably higher average net worth for firms up to 100 employees (10 times in manufacturing

and 15 times in professional and business services), higher turnover and lower average annual exit rates (5.6% v. 7.7%).

Technological development is also served by population growth and, in particular, the renewal afforded by immigration. "Critical mass" in the national population size is an important though under-researched issue in mapping needs for technological skills formation within Australia.

b) Strategic and defence considerations. However, the scale of industry, communications and transport infrastructure able to support the defence effort will be affected by the size of the population. Population size will affect the nation's ability to spread the costs of an increasingly expensive, technologically advanced defence effort for the continent across a larger number of contributing taxpayers.

c) "Good international citizen" benefits. The mass movements of surplus or displaced populations present major strategic problems for many countries, including those in our region. To date, the pressures they have experienced have not generally been redirected to Australia.

Immigration policy, along with other international policy stances, is vital to Australia's capacity to maintain its independent position on these issues. Attributes of our "good international citizen" role include:

- being seen to be open to immigration and to have in place a considered and realistic regime for permitting temporary entry for purposes other than work;
- maintaining a demonstrably non-discriminatory approach to any selection system on race, religious or nationality grounds;
- maintaining a positive and supportive approach to the migrant after arrival, with treatment equivalent to that accorded nationals;
- maintaining a responsive and generous stance in relation to the resettlement needs of people displaced by man-made and natural calamity, as befits a country seen to be capable of sustaining a higher population.

Australia's adoption of internationally respected policies in the immigration and temporary entry areas also provides reciprocal benefits to Australians in their ability to move relatively freely around the world.

As Australia faces its global future, it makes abundant sense to construct a population policy that serves the nation well for the emerging challenges ahead. ■

POPULATE OR STAGNATE: AUSTRALIA 2050

Falling birth rates will limit the growth of Australia's population and will ultimately send Australia's population into decline unless it is counterbalanced by an active immigration policy. Is this an issue of concern for Australia? Must we populate if we are not to stagnate. And, if so, what are the implications from a policy point of view?

There is no doubt that the issue of a population policy is likely to become of increasing importance for Australia over the coming decades. Can Australia continue to grow economically at a rate which delivers a high standard of living to its people without population growth of at least 1.5%? Does Australia need a population of 50 million or more to create a sufficient home market? Will Australia from either a moral point of view or a defence point of view be able to 'hold onto this large land mass' with a population of only 20-25 million?

In my view the key factors in achieving a high rate of sustained economic growth do not depend on the size of our population. Far more important are:

- An outward looking economy and an export culture;
- An intelligent and highly educated workforce;
- A focus on sectors where Australia has a competitive advantage;
- Access to the larger world markets.

Countries such as Sweden, Finland and Switzerland have shown that a large home market is not an essential prerequisite for strong economic growth. As globalisation continues apace and as the dramatic

improvements in transport and communication bring markets ever closer together, the relative importance of a 'home market' has decreased. And, in any event, a market of 50 million people would still be dwarfed by the size of the European Community and countries encompassed by the North American Free Trade Agreement. This is not to say that a population of 50 million people would not provide greater critical mass – however from an economic growth perspective, it should be seen as a 'nice to have' rather than as an essential ingredient.

A declining (and therefore ageing) population does, however, have other implications. The vitality of the community; the requirement for aged care as opposed to child care services; the need for hospitals dealing with hip replacement surgery as opposed to maternity hospitals; the ability of the country to defend itself; these are but some examples. Would a declining population lead to social stagnation. And should these concerns lead the push for higher levels of immigration?

But before this country can even consider embracing a policy designed to significantly boost Australia's population it must address the very serious long term environmental issues facing this, the driest of continents.

The total flow of Australia's river systems (including the fast flowing rivers in the north of the continent) is only 1% of the flow of the Mississippi River system in the United States. The worsening salinity problems of the Murray-Darling basin and the slow 'death' of the Snowy River as a result of the diversion of its flow into the Murray River highlight the problems that this lack of water causes. Unless Australia starts now to take serious steps to address these issues and to recycle its limited water resources, we will not be in any position to cope with significantly higher population levels. Melbourne has escaped water restrictions in recent years only because of the Thompson Dam – a dam which is having significant effects on the river system and the Gippsland Lakes downstream. Where could any future dam to serve Melbourne be built? Sydney also faces difficult questions over the siting of any dam to provide water for its growing population. Adelaide

“...however from an economic growth perspective, it should be seen as a 'nice to have' rather than as an essential ingredient.”

already has one of the poorest quality water supplies of any large city in the world and it is deteriorating even further with the reducing flow of water in the Murray River.

Some would say that these difficulties for our major cities shouldn't prevent a significant growth in our population – we should direct any immigration into the north where there is much more water available. This

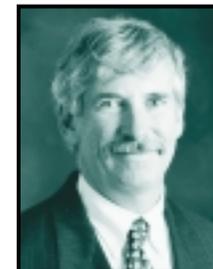
ignores the reality that immigrants would inevitably move to where the jobs and services are – and, as is evident from the recent spate of closures of banks in rural areas, the jobs and services are inexorably finding their way to the major cities.

But it is not just the lack of clean water for household and industrial use in the major cities that is a problem. It is also the lack of water for agricultural uses – a problem which is becoming more significant as agriculture moves from grazing sheep and cattle into higher value added and intensive agriculture such as horticulture and cotton growing. The salinity level is increased by these more water intensive forms of agriculture as well by the effects of continued land clearance. The recent difficulties in trying to rein in the extensive clearance of timber on marginal agricultural land in Queensland shows how hard it is to restrain land clearances.

To solve these problems will require considerable political will and the development of a consensus on both sides of politics and throughout the community to place these issues at the top of the priority list. The battle over the Snowy River highlights the political difficulties – each State has its own constituency to please and then within each State there will be the competing interests between city and country. It will require legislation and regulation in all States; it will require significant amounts of money for water recycling at all levels of government; and it will require a very long term view, something which Australian governments are traditionally not very good at doing.

It is only once these issues are being successfully tackled that Australia should seriously consider whether it could support a population of 50 million or more. In the meantime it will be sensible to increase the levels of immigration over time to at least counterbalance the effect of the decline in the birth rate. The period since the Second World War has shown the social and economic benefits of a sustained immigration programme at a level which allows the immigrants to be absorbed into the workforce within a reasonable timeframe and to establish themselves in society without disruption to the social fabric of society.

So the real question we should be focussing on is not 'Populate or Stagnate' but whether we can start to reverse the dramatic decline in our environment and to conserve our scarce water resources so that we are able to still support our current population level. ■



**ROB
STEWART**

*Chairman,
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POPULATION FUTURES FOR AUSTRALIA

In a series of joint papers with Rebecca Kippen over the past 12 months', I have argued that the long-term prospect of below-replacement fertility greatly reduces the range of viable population futures for Australia.

In a population with below replacement fertility, each successive generation is smaller in size than the previous generation. The fertility rate in Australia has been below replacement level since 1978. For the past decade, fertility has fallen steadily and all the indications are that this trend will continue for some years yet. The results of our studies contrast sharply with the calls that have been made with an environmental motivation for an Australia with a population considerably smaller than its present level (6-12 million) and, at the other extreme, with calls made with a strong nation-building orientation for a population considerably larger than the present level (50-100 million). These extremes are easily stated but make no demographic sense. To attain a population of 50 million in 50 years, Australia would need net migration of almost half a million persons every year for the next 50 years. To put this number into perspective, average net migration over the past decade and over the past five decades has been 80,000 per year and the maximum annual level ever recorded was about 150,000 (a level approached only twice in Australia's history, both times for only 1-2 years). To get to a population of 12 million in 50 years, we would require a net 100,000 Australians to leave Australia every year for the next 50 years, an equally ludicrous proposition.

We argue that it is not sensible to aim for population decline in the context of below-replacement fertility because all of the decline would be concentrated at the young ages. The result would be substantial absolute falls in the size of the labour force and the creation of a momentum for future population decline that would be difficult to reverse. We also argue that substantial population growth would be out of the question because it would imply levels of immigration considerably higher than any we have ever experienced. Thus, after the positive momentum of our present relatively young age structure is exhausted (about 20 years), the viable options for population growth range from zero growth to low positive growth, low, that is, relative to our experience over the past 50 years.

The level of understanding of the powerful effect of below-replacement fertility upon population growth is very low. Former Prime Minister, Malcolm Fraser has said:

Australia's population has grown two and a half times since 1945. There is no reason at all why we could not grow two and a half times again by the middle of the next century.

There is a reason and that reason is that our fertility rate is now only half the level it was in the two decades after the Second World War. If natural growth is negative, as it will be in Australia in about 20 years time, then the only way we can grow two and a half times in 50 years is through massive immigration.

As fertility falls in Australia, increasingly higher levels of annual net migration are required to maintain a target of even zero population growth. Based on the present likely trends in fertility and mortality, a net migration level of

80,000 per annum is now required to achieve long-term zero growth of the Australian population. Traditional immigrant receiving countries, especially those like Australia and Canada with relatively small populations sizes, are in the favourable situation that they can employ immigration in this way, that is, as a policy mechanism to avoid falling numbers in the working ages as the numbers in the retirement ages increase. Countries with large populations and very low fertility, such as Japan, Italy and Germany, face major falls in their supply of labour and very rapid ageing of their populations. Impossibly high levels of immigration would be required in these countries to put them in the relatively more favourable demographic positions of Australia and Canada. While it may be argued that falling labour supply can be compensated by productivity improvement or that economies can adjust to long periods of negative growth, it is more likely that the orientation towards economic growth will continue because labour supply in the United States, the world's economic engine, is projected to continue to rise steadily. Capital, as it has done in the past, will continue to follow growth. We have demonstrated that a reversal of the trend towards early retirement over the past 30 years and continued increases in labour force participation rates for women are sensible policy approaches for countries facing major falls in their labour supply.

Another feature of the work that we have done is to indicate that when we are talking about population policy and ageing of the population, we need to consider very long time frames. A simple indication of why this is necessary is to remember that the rapid ageing of the Australian population in the third and fourth decades of this century is the result primarily of fertility rates in the past 50 years. We have also demonstrated that the outcomes of quite different demographic scenarios can look much the same after 50 years but, soon afterwards, diverge dramatically. The more dramatic effects of sustained very low fertility are manifested only after 50 years. The issue here is that the orientation of economic planning is very short-term. The eyes of economists glaze over when demographers

"Australia's population has grown two and a half times since 1945. There is no reason at all why we could not grow two and a half times again by the middle of the next century"

— MALCOLM FRASER, WEEKEND AUSTRALIAN, 3-4 MAY 1997.

talk of 50 years time and, indeed, a great deal of unimagined change will occur in the next half century. Nevertheless, it is a certainty of demographic accounting that very low fertility today will have an impact on the age structure of the population well into the coming century.

Finally, the view is often expressed that immigration 'can keep our population young'. Our modelling work shows that, provided Australia's fertility rate is sustained around 1.65 births per woman, net migration levels of around 80-90,000 per annum make a small but worthwhile contribution to slowing down the ageing of the population. Higher levels of immigration than this make very little difference to ageing. In the end, substantial ageing of Australia's population is absolutely inevitable; it is the product of events that have already occurred.

^{1,2} McDonald, P and Kippen, R 1999a, *Ageing: The social and demographic dimensions in The Policy Implications of the Ageing of Australia's Population*, Melbourne: The Productivity Commission and the Melbourne Institute of Applied Economic and Social Research;

McDonald, P and Kippen, R 1999b, *Population Futures for Australia: the Policy Alternatives*, Canberra: Parliamentary Library;

McDonald, P and Kippen, R 1999c, *The Impact of Immigration on the Ageing of Australia's Population*, Discussion Paper, Canberra: Department of Immigration and Multicultural Affairs;

McDonald, P and Kippen, R 2000, *The implications of below replacement fertility for labour supply and international migration, 2000-2050*, Paper presented to the 2000 Annual Meeting of the Population Association of America, Los Angeles, March 23-25.



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The following is extracted from a paper by Anthony Chisolm, Emeritus Professor. Formerly Professor and Head of Agricultural and Resource Economics (1988-99), La Trobe University, Melbourne which appears on the web site of the Business Council of Australia, www.bca.com.au

LAND, RESOURCES AND THE IDEA OF CARRYING CAPACITY

The idea that Australia's population growth is constrained by the limits of land and resources has endured for almost 80 years. The evidence, to the contrary, is that resource deficiencies need not set population limits in economies that are open to change and technology. The perceived connection between immigration and environmental cost cannot be sustained. Environmental problems such as land degradation will best be managed by environmental management strategies while resource shortages can safely be left to the market.

Determining Australia's maximum (and optimal) sustainable human "carrying capacity", on the basis of the country's natural resource endowments, has been a controversial issue for much of our post-Federation history.

The Report of the National Population Inquiry to the Federal Government (1974) ... succinctly drew together attempts to estimate the carrying capacity of Australia ... Over the 40-year period from 1950-90, farm output in Australia increased two-and-a-half times, or about 2.5% per year, while measured real per-unit costs of production declined. The rate of increase in output per unit of land over the three decades to 1990 was higher than for any other OECD country.

Knowledge was the key resource accounting for the substantial productivity increases in global and Australian agriculture from the 1950s onwards. The large increases in agricultural output over the past 40-50 years were accompanied by only a modest expansion in the quantities of land and water devoted

to agricultural production. Indeed, the area of land devoted to Australian agriculture has declined over the past three decades.

In 1992, the author compared the value of the increase in the productive capacity of Australian agriculture with the estimates that had been made of the annual costs of land degradation. It was concluded that the additional annual value of agricultural production (about \$15 billion in 1988-89) made possible by technological change dwarfed the then estimated annual costs of land degradation (about \$0.6 billion per year). Although the most recent estimates of costs of land degradation are higher (adjusting to \$1988-89) the story is essentially the same.

How can the paradox of rising agricultural productivity in the presence of land degradation be resolved? Although it is true that land degradation exists on Australian farmland, it is also true that the agricultural productive capacity of considerable areas of land has been improved ... a major reason for the more than doubling of agricultural output over the four decades, from 1950-90, is because the fertility of the land which produces the bulk of Australia's agricultural commodities is much higher than when European settlement first occurred.

... the estimates made in 1975 by CSIRO scientists are based on present per capita consumption trends. Assuming that proven technology (in 1975) is used, they estimate that Australia could feed 60 million people (82 million) at existing per capita food protein (energy) consumption levels, without excessive risk of agricultural instability or undue environmental risk.

The associated increase in Australia's area of irrigated agriculture was seen ... to leave ample total water supplies for domestic, municipal and industrial use. Indeed, they claim that even if irrigation was expanded to the maximum feasible irrigable area (an area much greater than used in their estimates) it would require an Australian population of 140 million, at present per capita urban water use rates, to absorb Australia's water resources. They recognise that considerable distributional problems may exist.

While the primary focus in the Australian literature on human "carrying capacity" has been the adequacy of food and water supplies, concern has also been expressed about the adequacy of Australia's non-renewable resource reserves. In fact, Australia is particularly well endowed with most of the important mineral and energy resources required to sustain a technologically advanced society. Few, if any, countries can expect to be self sufficient in all natural resource use. Apart from Australia's well-known deficiency in oil, the only other resource where the shortfall is of critical importance is mercury.

Non-renewable resources are freely traded in international markets and in well-functioning markets the world price is the best indicator we have of the global scarcity of a natural resource. Embedded in the world price is the array of current and expected future supply and demand forces for the resource.

Paradoxically, water is the resource most commonly cited as imposing a limit on Australia's population growth, even though on a per capita basis Australia is better endowed with water than most countries in the world.

With the major exception of oil, it is of some policy interest to know that Australia could be self-sufficient with a much larger population (of the order of at least 50 million) with respect to supplies of food, water, energy and minerals. But this misses the point that in a technologically changing and open economy such as Australia, relative resource deficiencies do not set population limits. Suggestions that the quantity of a country's productive natural resources defines an upper limit to its population assumes that substitutes cannot be found for 'deficient' natural resources or that technology cannot increase their effective availability, or that 'surplus' resources cannot be used to acquire 'deficient' resources through trade ... Many prosperous and secure trade-based countries exist (e.g. Singapore) which are highly "deficient" in farmland and other natural resources.

Land degradation and food supply

Land degradation is a matter of serious concern. However, it is instructive to review briefly the trend of Australian farm output over time. Whether or not there has been a net improvement in the quality of Australia's farmland, the common claim that increases in Australia's population and associated increases in domestic consumption of agricultural commodities lead to increasing land degradation and other adverse rural environmental impacts is without foundation.

Environment and population

There is considerable potential for improving the efficiency of resource and environmental management in Australia. It has to be acknowledged that the social costs associated with urban and coastal pollution also deserve careful consideration in the context of discussions about the more liberal immigration policies. However, the general point advanced here is that Australians will be better off using environmental management policies that are directly targeted to deal with specific resource and environmental concerns rather than modifying immigration policies. The latter is an extraordinarily blunt instrument.

It is possible to demonstrate that the land and water degradation attributable to farming activities is not linked to Australia's population level.

Were self-sufficiency an issue, Australia's supplies of farmland, forest land, water and non-renewable mineral and energy resources (with the exception of oil) are sufficiently abundant to allow Australia to be self-sufficient with a much larger population.

For a small trading country like Australia, however, the most relevant measure of resource scarcity for internationally traded resources and commodities is world prices. Measures of resource scarcity based on simple projections of present consumption levels and known reserves of resources are notoriously unreliable.

With the exception of crowding and the associated rationing of prime landscape resources, it is difficult to identify any environmental impacts that are unequivocally attributable to population growth.

The reason for non-existent or weak links between population, growth per se and environmental degradation is mainly due to the potential for societies to respond to environmental concerns with more appropriate forms of social organisation and technology. ■

POPULATION POLICIES: THE RETURN OF THE REPRESSED?

Population policies are in the air again. Earlier this year Prime Minister John Howard called for a 'comprehensive debate about population and immigration'.

(The Australian 4-5 March 2000)

The Australian Democrats are also 'reviewing their population policy'. And Opposition Leader Kim Beazley outlined a comprehensive population policy last September. In the same month the Business Council of Australia dedicated part of its journal BCA Papers to population issues.



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Beazley's talk was titled 'Nation Building: towards a population policy for Australia'. The Business Council claimed that 'Australia is defined as a nation by its population'. The term 'nation building' also appears in *The Australian's* report on Howard's statement. He hopes to develop 'nation building in its broadest sense', and 'nation building in terms of knowledge and skills'. This is a theme which readers of BHERT News will recognize – the need to build our knowledge, skills and creativity to meet the challenges of the global information economy. Yet 'nation building' can be a loaded term. As well as signifying increasing numbers

and strength it conjures up nationalism, xenophobia even, particularly when linked with responses to immigration and asylum seeking. It hints at the question of who is, or is not, part of our nation. Inevitably then population debate is sensitive, requiring a broad range of perspectives.

Linking knowledge and skills to issues of population and immigration marks a new development in government policy, at least in recent decades. As demographer Geoffrey McNicholl has pointed out, coherent population policies that express preferences for short, medium and long term demographic futures are virtually nonexistent in industrialised countries with slow rates of population growth. Australia is a case in point. Australian governments in the past thirty years have resisted calls for a national policy on population. This is partly due to the compartmentalisation of political interests related to population growth so that, for example, debates about reproduction are unrelated to debates about immigration or environment (McNicholl, 1985). Despite occasional acknowledgment that population size is important, modern democratic states find it virtually impossible to engage in discussions about long range population objectives because the immediate policy implications have the potential to restrict the freedom of individuals and groups. Australia, for instance, has carried the political burden of the White Australia Policy over the last two decades and is reluctant to reawaken the ghosts of that past. There is much we would prefer to repress.

So what has changed? And why have all parties begun to engage in the difficult and politically fraught task of mapping a population policy? And why has the business community weighed into the debate? Partly it is because of a profound shift in the balance of demographic factors in overall population growth. 'There has been a massive and ubiquitous decline in domestic fertility and a large though uneven increase in immigration throughout the developed world' write US population experts Michael Teitelbaum and Jay Winter. Where developed nations once expected their populations to grow through natural means, increasingly it is immigration which swells the nation's numbers.

In Australia demographers have argued that declining fertility will lead to an eventual decline in the population overall unless immigration increases proportionately (McDonald, 1999). It will also shift the age pyramid, with young people outnumbered by the

ageing. Business leaders wonder where the labour force will come from and whether increased productivity alone can make up the shortfall. Will we be able to attract sufficient immigrants to compensate? However, rapidly increasing immigration brings with it its own dilemmas. How much immigration can the country absorb at any one time, where will immigrants go and which groups will be most warmly welcomed? Should we only invite skilled immigrants or balance our intake with family reunion and humanitarian ideals in mind?

These are highly sensitive issues, as historians and politicians have found at their peril. It is in this context

"... in the globalised world, movements of capital and trade are encouraged; movements of people... are resisted"

that the question of what constitutes a nation comes to the fore. It's not coincidental that both political leaders refer to 'nation building' in their discussions. Defining a strong coherent sense of nation and national identity is key to their

success in attaining and holding office. Yet defining nations involves inclusion and exclusion. Border controls are brought into play to ensure the 'right' type of immigrants are admitted. And in this globalising world, where movements of capital and trade are encouraged, movements of people, an inevitable accompaniment, are resisted.

So what can we do to meet these challenges? One set of questions relevant for business and universities revolves around the issue of declining fertility. It is now well-known that Australian women produce on average 1.73 babies. It is also well-known that this figure is below replacement rate and that the more highly educated a woman is, the fewer children she is likely to have. The latter has been consistent throughout the last century. Witnesses to the 1903 NSW Royal Commission into the Decline of the Birth Rate and the Mortality of Infants told of the 'selfishness' of educated women who did not want to endure constant child bearing. The learned Commissioners should not have been surprised. Had they listened to the demands of the feminist movement of the time for women to have greater control over their bodies, and the right to independence, they might have been warned.

Similarly we know now that in countries where there is gender equity in the workplace, where women (and men) enjoy social policies which enable them to combine work and family they are more likely to undertake child bearing and continue in their careers. Policies such as well-paid maternity and paternity leave, the ability to take career breaks without jeopardy, the provision of child care, and flexibility of working hours are vital for dual career families. The European countries with the fewest of these policies have the lowest fertility levels. Yet are we putting those policies into practice?

In workplaces with ever increasing hours of work, where being seen to be working longer hours than one's colleagues is a badge of honour, we can hardly expect women intent on developing their careers to easily make the decision to have a child. Currently for many it is either/or: give up work or give up the idea of children. This is a huge wastage either way, not to

A CATHOLIC VIEW ON POPULATION

In recent years, the strong consensus in Australia that the nation needed a larger population has broken down, causing major problems for governments in determining immigration policy especially.

Among the factors undermining the consensus about the need for a growing population are:

- the prolonged unemployment over the last few decades, giving rise to a mistaken belief that immigrants take jobs from Australians;
- fears that increasing numbers of Asians coming through immigration would permanently alter the ethnic and cultural balance, causing racial tensions and damaging social cohesion; and
- claims that Australia has too many people already, as evidenced by perceptions of overcrowding in the major cities.

Debate about Australia's population policy needs to consider the wider context of global population growth and widespread misunderstanding of problems of international development. Most people are aware of the continuing desperate plight of many millions of people in developing countries. But few Australians seem to realise that we have the resources and technology to eliminate the worst forms of hunger and poverty within a generation, as the 1997 UN *Human Development Report* (p. iii) insisted. What is lacking is the political will to marshal our energies against poverty.

Indeed, there are startling good news stories on many fronts, including improvements in food production, life expectancies and education levels. The Nobel Prize winner, Amartya Sen, wrote in *Development as freedom*, that there is 'no significant crisis in world food production at this time'. Indeed, 'Famines are, in fact, so easy to prevent that it is amazing that they are allowed to occur at all' (Oxford University Press, 1999, 206, 175).

Unfortunately, debates over world population have sometimes polarised, and official Catholic views are often entangled in debates over contraception or abortion. The classic Catholic statement on population came in Pope Paul VI's 1967 encyclical, *Development of peoples* (#37), which acknowledged that 'accelerated demographic increase' can add to problems of development.

He recognised that public authorities can intervene within their competence to limit population growth, as long as the freedom of married couples is respected, for 'it is for the parents to decide, with full knowledge of the matter, on the number of their children, taking into account their responsibilities towards God, themselves, the children that have already brought into the world, and the community to which they belong.'

Against the coercive population programs in some countries, Pope Paul defended the freedom of couples to make their own decisions about the number of their children, and emphasised the centrality of their consciences and the need for people to have adequate information.

The extent of coercion and manipulation in international population programs was exposed, among others, by Donald Warwick, a prestigious scholar at the Harvard Institute for International Development. His *Bitter Pills: Population Policies and their Implementation in Eight Developing Countries* (New York: Cambridge University Press, 1982) chronicled the extensive violation of human rights promoted by some population programs, from outright coercion to misinformation, deceit and ethical practices which would never be tolerated in western countries. The use of population targets and quotas, with incentive payments for fieldworkers, had led to widespread abuses. The 1994 Conference on Population and Development at Cairo attempted to respond to such criticisms.

As I see it, Australia has been abundantly blessed with a huge landmass endowed with astonishing natural resources. Yet we have a population of about 18 million, comparatively tiny in relation to the Asian countries around us. We have a duty to understand how to manage this land better, and how to make it more productive not just for ourselves, but for other nations as well.

Within the constraints of resources and environment, it seems that Australia also an obligation to share its resources and enlarge its capacities by increasing population and welcoming larger numbers of immigrants. The difficulty is, of course, that we often do not know what are the environmental limits, especially since new and developing technologies can rapidly expand possibilities for further settlement.

Nevertheless some writers argue that environmental constraints already limit Australia's capacity to increase population, and our nation should rapidly move to limit population growth or even reduce current population levels.

Such arguments need to be considered fairly but critically. Australia does face some major environmental problems. But to what extent can these be managed or solved with existing or developing technologies?

The history of the world population debate gives reason for caution in too readily concluding that

mention the discriminatory aspects. Unless policies change in this area fertility rates are likely to decline further and population overall will eventually decline unless very large numbers of immigrants are welcomed.

This is a key opportunity for Australian business to lead the way with family-friendly policies, as some companies are already doing. While universities have also modelled best practice in this area in the past, constant underfunding has undermined many equity goals. Stabilisation of the birth rate is important, demographer Peter McDonald argues, as continuing decline will necessitate large compensatory levels of immigration. For instance, should the fertility rate fall to 1.5, net migration would need to be 120,000 per annum to prevent population decline.

If we choose to increase our numbers through immigration, as we probably will, where will the immigrants come from? Increasingly they will come from areas of economic and political conflict, seeking, as they always have, better opportunities for themselves and their children. According to UN sources at least 100 million people are on the move around the world. How many of these will satisfy our criteria for skilled migrants? Will our educational institutions and our businesses be able to accommodate a more culturally mixed group and their linguistic and cultural diversity?

We need to build both our human and educational resources in languages and cross-cultural studies, if we are to build a population which is socially cohesive. We must abandon mono-cultural approaches which reinforce perceptions of Anglo dominance. We must provide syllabi which foster tolerance, conflict resolution and global understanding while advancing knowledge of Australia. Our workplaces need to reflect population change in composition and language diversity at all levels – including senior management. Look around at any academic or business gathering. One is still struck by the sea of grey suits. Where are the dresses, turbans and robes of a cosmopolitan society located in the Asia-Pacific region?

Clearly the trend in universities to internationalise the curriculum is important. In the short term the number of graduates coming straight from school may well decrease as the younger generation shrinks. The shortfall is unlikely to be taken up by the increasing number of older, possibly retired, persons if university fees and charges continue to grow. International fee-paying students will increase and will not only demand a curriculum which enables them to move anywhere in the world but one that gives them, at the same time, a distinctive sense of what Australia is about. Here is an opportunity for universities to lead the way in focussing on a range of cultural issues and linguistic choices as core curriculum. Culturally and linguistically literate graduates will strengthen Australian business and civic life both at home and abroad.

The issue of overall population decline will be welcomed by environmentalists who argue that Australia's fragile landscape cannot support a population any larger than the current level. This debate must also be factored into population policies – and must be answered. Exponents of new forms of national security argue that conflicts over scarce resources (usually in developing countries) are major causes of conflict and factors leading to forced

emigration. While these issues may not be as central for Australia, states will need to confront the social and environmental limits to growth of major conurbations such as Sydney.

Population experts have tended to cluster in departments of demography, their reports, along with those of the Australian Bureau of Statistics, providing the backdrop for policy studies. Similarly immigration studies have often occupied a niche of their own. What we need now are more cross-disciplinary studies of populations, centres of what might be called *the politics of population*. Such centres of excellence might include demographers, environmentalists, women's studies experts, policy analysts and those skilled in immigration and labour studies. A critical addition would be those who undertake cross-cultural studies and conflict resolution – and issues surrounding national and international identities.

Demographers are very reluctant to engage in long term predictions. After all, they did not predict the baby boom! However, it seems reasonably plausible that the level of fertility in developed countries in the immediate future will be below replacement level. It also seems likely that immigration will increase as those from less prosperous parts of the world, or those caught up in conflicts, will seek to better their opportunities. As two key writers in this area argue: 'the intersection of low fertility levels and volatile international migratory flows is the new and powerful feature in demographic trends'. This is what we are seeing on our northern shores and with Kosovar and East Timorese refugees. Our young graduates seeking wider research opportunities abroad are also part of that migratory flow.

It is a curious paradox that while much of the developed world insists on moving towards 'free trade', on the removal of barriers to trade, barriers to movements of people (the labour part of the equation) are increasing. Boundary controls are the order of the day in Fortress Europe: can we claim to be any different? Australians will need to deal with these complex issues if we are to avoid our former unhappy reputation as exclusive and restrictive. It is timely that the debate about population policies has begun. ■

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environmental factors prohibit further population growth in Australia.

As some authors have shown, (see Frank Furedi, *Population and development: a critical introduction*, Oxford: Blackwell/Polity Press, 1997), alarm about world population growth developed in the early twentieth century out of eugenic theories of Social Darwinism, and fear that the 'white race' was not breeding as quickly as colonised or 'coloured' peoples. When these racist assumptions became unacceptable after the Second World War, advocates against population growth adopted Malthusian arguments that the earth could not produce enough food.

But as food production continued greatly to outstrip population growth, it became evident that one could not argue that lack of food demanded drastic restrictions on population growth. Instead, the reason for limiting population shifted; many believed that increasing population hampered economic development and the lifting of living standards. This argument, too, was found deficient and was increasingly abandoned as development specialists could not find any necessary causal link between development and population. More recently, the population lobbies have turned to the environmental movement to support their views. Moreover, through environmental mechanisms or migration, population growth in developing countries is now portrayed as a threat even to the developed countries.

If Australians are to debate adequately their population policy, it is particularly important that the media improve their reporting and commentary on population issues, and especially the global picture. The visual media are especially vulnerable to over-simplifying matters. Graphic images of starving Africans crowding into food distribution centres readily give the impression that the problem stems from too many people. How can television news also communicate that such emotive scenes often occur in a sparsely populated countryside and that the reasons for these tragedies often have little to do with lack of resources? Africa is immensely rich and with improved management is capable of supporting a vastly increased population.

Even much of the quality print media offer very little good analysis of progress and problems in world development and the link with population. Sometimes sensational claims by population agencies are reported without any critical evaluation. For instance, Lester Brown of the Worldwatch Institute regularly issues his apocalyptic prognostications, which are dutifully reported, partly because they are so sensational. But how is an ordinary reader to know that many development experts and demographers would regard them as unlikely or even quite propagandist? Wouldn't it be interesting to evaluate how accurate have been Worldwatch's predictions over the years? Some of the population agencies rely on public funding and need to accentuate crises to maintain their funding streams.

To remedy such distortions, the media could locate well regarded specialists in development and population studies who can evaluate sensational claims. In addition, it would help greatly if media networks could promote their own specialists in these complex and contested areas.

To argue that Australia is facing its population limits

seems to fly in the face of common sense. With one of the largest landmasses on the planet, Australia is sparsely populated, with the overwhelming majority of its people concentrated into a few narrow coastal strips, comprising about 3.5% of its land area. As any traveller knows, the rest of the continent is largely empty. If one moves west from Adelaide around the coast, there is only one substantial city, Perth, and a few provincial towns, including Darwin, in the thousands of kilometres before reaching Cairns and Townsville. It seems quite unreasonable to assume that major new cities and industries cannot be developed in these regions, or in the millions of square kilometres of our inland.

In addition, many of our country towns are dying for want of population, and Tasmania, Western Australian, South Australia and the Northern Territory are all searching for further population.

From a geopolitical viewpoint, a greater population would give Australia a greater profile in regional affairs, increase its economic strength and enhance its defence capabilities. In coming years, population movements will continue throughout the Asian-Pacific region, and it will be in Australia's interests that such movements accord with our own priorities, and are not forced upon us. Whatever we can do to increase our links with the region and consolidate goodwill can only redound to our long-term advantage.

Australians need to recover a new consensus on the benefits of population growth.

- by clarifying that immigration does not cost Australians their jobs;
- that our future lies in becoming a more cosmopolitan nation, embracing ethnic and cultural diversity founded on the strong foundations of social equity and opportunities for all; and
- by tackling the perception of overcrowding in major cities with resolute new efforts to decentralise our population. ■

Dr Bruce Duncan is a priest of the Redemptorist order with a background in economics and political science. He lectures in history and social ethics at Yarra Theological Union in Melbourne, and also works as a consultant at Catholic Social Services. He has written a short work, *World population: cause for alarm?* (North Sydney: The Australian Catholic Social Justice Council, 1995). His history of the Labor Split of the 1950s, 'Crusade or conspiracy?', will be published later this year by the University of New South Wales Press.



DR

**BRUCE
DUNCAN**

CSSR

TOWARDS AN AUSTRALIAN POPULATION POLICY

Australia's long-term social, cultural and economic development are inextricably linked to the size and makeup of the nation's population. And that's an area over which governments, particularly through their immigration policies, exercise considerable influence.

The Business Council of Australia considers that population policy and the level of immigration that is appropriate for Australia should be the subject of a thorough and well informed debate in the Australian community, and it is working to promote such a debate. The contribution made by migrants to Australia's growth as a nation is unmistakable, and extends well beyond an economic impact.

In 1947, Australia was a nation of 7.6 million people, mostly of Anglo-Celtic descent. Its economy was overwhelmingly based on rural exports, with limited protected manufacturing. Its infrastructure was poor, and it had few links in the region.

The tide of post-war immigration had a big influence on all aspects of Australia's economic and social development. Infrastructure has been built and the economy has been transformed into one that is open and vibrant, with a strong services sector and greatly improved health and education facilities.

This is not the direct product of immigration, but migrants played a big role in every part of that transformation. Today, with a population of almost 20 million, Australia is still small among nations, but it has sufficient gravity to gain a voice and respect in international forums.

Refugees account for a significant proportion of Australia's migrant intake, confirming the nation's commitment to humanitarian values. This commitment should remain an important signal of our willingness to

meet our obligations as a good international citizen; a humane and generous country. The cultural diversity that immigration produces is a tribute to Australia's tolerance.

However, there is no sense at present that immigration will play any such defining role in our future. There is no widespread debate about the contribution an immigration program could make to ensuring our future as a growing and vibrant nation, united in diversity and secure in our strategic relationships with our regional neighbors more than it is to accuse those business or migrant communities urging a higher intake to be acting out of self-interest.

Current research shows immigration is a clear benefit to employment; however, this is not widely appreciated. Australia is drifting towards a position of negligible population growth by default. In doing so we risk closing the door to further great advances such as those enjoyed during the 1950s and 1960s. There is a risk Australia is sowing the seeds of future problems.

Immigration rates have been declining since the early 1980s. Before that, immigration typically contributed more than 1 per cent to Australia's population each year. It is now less than half that. This trend is taking place at the same time as the birth rate of the non-immigrant population is declining.

In addition to simply increasing our numbers, immigration brought a more buoyant, expansive and outward-looking economy. It did this not only by increasing demand and growth, and improving economies of scale and investment, but also by helping to build strong trade and investment and strategic linkages with the regional and global economy.

In the past our immigration programs were designed to develop Australia's economy and national security. They were seen to be in the national interest and support for them was built on economic protections that were a feature of the economic system of the time. It is now vital that we approach immigration policy in the context of today's very different economic systems and knowledge. We have to find new ways to identify an appropriate population policy that is an integral element of a more modern sense of our national interest. ■

The above are extracts from a paper by Leigh Clifford, Chief Executive, Energy Group, Rio Tinto which appears on the web site of the Business Council of Australia, www.bca.com.au

INFLUENCING THE NATURAL RATE OF POPULATION GROWTH

Natural population increase has a greater effect on the total population growth than does immigration. Although attempts to devise policies to encourage higher rates of fertility have had little sustained success, there is some evidence that indirect policies which make it easier for people to combine work and family can be effective.

In the post-war period ... net migration gains have accounted for less than half (39.5%) of national population growth over that period.

Moreover, moderate increases in immigration levels over the next two decades will have less effect on population growth than shifts in the level of fertility. If Australian levels of fertility fall to those of some contemporary European nations it will hasten the onset of a situation where deaths outnumber births and increase the ageing of the population. Alternatively, small increases in fertility will delay these processes considerably.

The concentration on immigration and neglect of fertility in the contemporary population debate is partly a function of a lack of understanding of the role of natural increase. There is also a widespread feeling that fertility levels are not able to be influenced by policy in a liberal democracy while immigration can. This was not always the case. In the pre-war period... fertility was seen as an area amenable to influence by public policy.

Fertility trends in Australia

Australian post-war fertility can be divided into three phases. These include:

- The post-war baby boom in which the Total Fertility Rate (TFR) rose from 2.75 in 1945 to a high of 3.55 in 1961;
- A period of steep decline in fertility to below replacement level in 1976 and down to 1.895 in 1980; and
- A subsequent period of relative stability up to 1995 when the TFR fluctuated between 1.84 and 1.94.

There has been a pattern of continuous decline between 1992 and 1997, with the TFR falling from 1.89 to 1.78 (a decline of 5.8%).

... it is clear that:

- Australian women are having fewer children on average than two decades ago;
- On average they are having them later; and
- An increasing proportion of Australian women are remaining childless.

Fertility policies

Many countries experiencing low fertility have a range of policy interventions seeking to increase fertility.

It is in Europe that there has been the greatest contemporary concern expressed about low fertility and some major attempts have been made to develop policies aimed at increasing fertility. These can be divided into two broad types of intervention:

- **Direct Pro-natalist Policies.** These involve direct attempts to influence fertility through offering incentives to those who have children and disincentives to those who choose to have no children. These types of policies involve cash payments for each child, privileged access to state housing, medical or education services, taxation incentives/disincentives related to children, etc.; and
- **Indirect Pro-natalist Policies.** These policies involve interventions that seek to change the environment in which decisions by couples about the number of children they intend to have are made. These are sometimes referred to as "family friendly" policies.

Indirect pro-natalist policies

A quite different approach to influencing fertility does not involve the institution of policies and programs directly attached to the number of children that women have but seeks to change the environment in which couples and women make the decision about how many children they have. In

particular, the focus is on policies that facilitate the participation of mothers in the paid workforce outside of the home and promote gender equality in the workplace, home and in society generally. Faced with the choice between an uninterrupted career or having a child and withdrawing from the workforce for an extended period, women in those countries often make the decision not to have the child. In short, where countries continue to support or promote the male breadwinner model of the family, fertility falls to very low levels.

Lessons for Australia

The evidence regarding the effects of pro-natalist interventions in low-fertility situations is that the impacts in increasing fertility are limited. On the other hand, in those countries with so-called "family friendly" policies, there are indications that fertility decline has not been as great as it has in countries where there are low levels of gender equity in the labor market and other institutions, and where there is limited support for women who chose to have children as well as have substantial work careers.

There would seem to be a strong case that where governments and industry pursue policies and practices that make having children and working outside the home a real option for women – through wide availability of child care, significant maternity and parenting leave arrangements, preservation of seniority and promotion prospects during such leave, etc. – fertility levels are likely to stabilise at TFRs between 1.5 and 2. They certainly contribute to the strengthening of the two-child family size norm in those societies.

... policies and activities that support women combining work and family should be instigated from the perspectives of improving equity and productivity in Australia. Australian women wishing to work outside the home in present circumstances are faced with the following choices:

- Have children and withdraw from the workforce for at least a substantial period and lose income and seniority; or
- Concentrate fully on career and maximise income and promotion possibilities and not have children.

Pro-natalist policies

Although such interventions may be desirable from a social welfare perspective, to assist couples in meeting the costs of rearing a child, there is little evidence that they induce couples to have more children.

Women attempting to combine work with child-bearing and child-raising are faced with a number of barriers. Whereas for men, having children is not seen to inhibit career activities and prospects, this is not the case for women who want to

do the same. There is a clear gender inequity here which in any society professing to subscribe to equality of opportunity needs to be addressed.

One aspect of fertility policy needing to be recognised is the trend, in Australia as well as in other industrialised countries, of widening fertility differentials between higher-income, higher-educated people and low-income groups. Such differentials are characteristic of countries in which women find it difficult or unrewarding to combine work and family. This results in a situation where an increasing proportion of children are born into poorer families. At the least, family-friendly policies could ameliorate this situation by improving the conditions of children through enabling their mothers to work and thus increase their household's income.

“...there are indications that fertility decline has not been as great... where there are low levels of gender equity in the labor market and other institutions, and where there is limited support for women who chose to have children as well as have substantial work careers.”

While women must have the choice of withdrawing from the workforce to bear and raise children, they must also have the choice which men have, that is to have both a full career of work outside the home and having children. For this to occur there are a number of initiatives that are needed in government, in industry as well as in the family (sharing of household tasks between partners, etc.). If this were to occur it almost certainly would lead to at least a stabilisation of Australian fertility at a level higher than that among many European countries and thereby reduce the overall ageing of the population and allow a less disruptive transition to a demographically stable population. Whatever fertility policy Australia has it must be one based on an equitable distribution of costs between the richer and poorer, the childless and the child-bearers and between men and women. ■

The above is extracted from a paper by Professor Graeme Hugo, Director, Key Centre for Social Applications of Geographical Information Systems, University of Adelaide which appears on the web site of the Business Council of Australia, www.bca.com.au

THE ROLE OF IMMIGRATION IN OUR ECONOMIC DEVELOPMENT

Australia owes a major part of its past population and labour force growth to immigration. Over the last 130 years, much of this growth has been encouraged by government policy and supported by Australians. Since the 1970s, immigration has been restrained, largely by the mistaken fear that immigrants add to the pool of our unemployed. Immigration no longer forms part of an outlook of Australia' national development.

This stands in strong contrast to the major waves of immigration in the 1880s, 1910s and 1920s and the 1950s and 1960s. In these times, government policy directly linked immigration and population to the nation's economic development. It was an integral part of Australia's vision for the future.

The 1880s

Gold in the 1850s lured immigrants in numbers unthought of, with obvious effects on prices and, longer term, on production. The immigrant wave of the 1880s was an echo effect. To be bigger and to enjoy the benefits of new and desperately needed infrastructure were seen as transparent gains. And when it came to the source of immigrants, there was no contest either: Australia was to be white and British.

1910s and 1920s

The popular view was that a fuller utilisation of our resources and a larger population spread over Australia was the best card to play against the Japanese and Chinese threat. Why was there so much open but empty land? ... these spaces were "almost useless", and the development of the Northern Territory was simply a "white elephant" ...

While there was no end to the speculation of Australia's "carrying capacity" in the 1920s – and it still continues today – some economists were coming to doubt the methodology employed, if indeed there was one. The notion of an optimum population dates back to Carr Saunders in 1925, though Cannon had earlier written of a maximum "return" occurring against the backdrop of the first increasing then diminishing returns. The optimum population came, as Carr Saunders expressed it, with maximum average output, that is, maximum

income per head. A young lecturer at the University of Sydney, F.C. Benham, was to write at the close of the 1920s that the optimum population which maximised income per head was perhaps 15-20 million. Carr Saunders and Benham took a similar tack on other inputs – thus, if capital and "organisation" (read "technology") varied, too, then the optimum population could be different at different times. Cambridge economist Joan Robinson went on in the 1950s to dismiss the concept as "a will-o-the-wisp" on the grounds that technological change could make the optimum anything.

The Australian public did not follow the details of these issues. For the most part, it believed in Australia's long-term potential to absorb population – as long as our immigrants were white and British.

1950s and 1960s

One of the biggest changes in these decades was the acceptance of those discouraged in the 1920s. The British reservoir of migrants was drying up.

Australia fished elsewhere. Over the next 20 years, the net was cast in northern Europe, southern Europe, then still further south, across Turkey and the Middle East. In 1973, the White Australia policy was officially abolished and since then, the composition of arrivals under various categories has broadened, especially from Asia.

Australia's post-war development drive drew much from earlier times. It involved public investment in infrastructure (the Snowy Mountains Scheme being a prime example) and the maintenance of high levels of protection. What was new was a much stronger tilt to the development of secondary industry.

Public opinion was relatively accepting. Unemployment was negligible and the "New Australians" were working on nationally important projects and in manufacturing. They were different but seen as needed and were tolerated.

Hindsight provides a different vista. Many would today question the large scale public sector borrowing to promote public sector designed development.

Beyond the 1960s

The early 1970s brought the end of large-scale immigration. Since then, both Labor and Coalition governments have run a "stop-go" policy around lower average targets. There have been recent compositional changes, with an emphasis on independent and skilled entrants. None the less, even with average numbers significantly down on those of earlier decades, immigration continues to excite debate.

The unemployment question, which is without doubt the strongest economic issue in the minds of the Australian public, was debunked in the early works of Harrison (1984) and Pope and Withers (1985; 1993). Opponents of immigration have focused on the supply side effects. An increase in the supply of labour from immigration either reduces wages, if flexible downwards, or if wages are inflexible, then increases unemployment. But the demand for labour also increases. Immigrants increase the demand for consumer goods, government services and public investment as well as increasing private investment through demand for housing and effects on aggregate

output and on business expectations. Keynes argued that the "animal spirits" of business investors rose with expected or known rises in immigration.

Nor does immigration of skilled workers necessarily cause under-investment in skills training. Wooden (1990) argues that skilled immigrants have positive effects on domestic training, not just negative ones. Immigrants bring new skills and practices which are transferable to the local workforce and at the same time create demand for new output which flows through to more jobs and hence more training positions.

Some of the other economic effects of immigration can be briefly canvassed. As we have seen, inflation was a major concern in the 1950s and it is possible that immigration was a factor in the rate of inflation in that decade. Empirical studies by Kmenta (1966), Norman (1985), Withers (1987) and Junankar and Pope (1990), however, failed to detect any such effect over the longer periods of their post-war studies. The same conclusion seems to hold for the effects of immigration on current account balances in the years since the 1960s (Junankar, Pope, Mudd, Kapuscinski, 1994). Nor could the same researchers detect a statistically significant impact by immigrants on housing prices (1993).

What is probably of more interest is the impact of immigration on growth in per capita output. Computable general equilibrium modelling has been inconclusive, in essence floundering on what is so difficult to estimate directly: economies of scale. Indirect analysis of the nexus of population and output growth, which is not dependent on the direct estimation of scale economies, typically find a positive relation (Neville, 1990). Recent work by Murphy (1998) indicates modest losses in per capita income from reductions in immigration, but these have been substantially offset by a more highly skilled intake – offering a net annual gain to average Australians, suggesting the importance of the composition of arrivals. Earlier Pope and Withers (1995), using a neoclassical model extended to include human capital effects, found migrant skills to be a major contributor to economic growth in Australia over the last 120 years, albeit with a diminution of this effect in the 1950s and 1960s – probably due to the lower transferability of skills, including language.

Optimum population again

... as far back as the 1920s, economists doubted the veracity of a number beyond that which maximised per capita income, and that this would vary with technology. Later ideas of the optimum population have appeared, including altering the maxima, the production conditions and the resource depletion constraints. Pitchford (1987), in a survey of these, concludes that none of the treatments results in a satisfactory method of empirically computing an optimum path or level of population and that "there is the problem that the future state of technology must remain an unknown factor of considerable importance".

A more recent addition to the debate is the book: *The Future Eaters*, by Tim Flannery of the Australian Museum (Flannery, 1994). By his reckoning, Australia's optimum population is between six and 12 million, which suggests that we are already significantly overpopulated. Where do Flannery's figures come

from? As the title of the book alerts us, the optimum is determined by the carrying capacity of agricultural lands, hence the number of eaters that can be sustained. But in an economy like Australia's in which rural production amounts to about 6% of GDP, it is difficult to fathom how living standard and food for our future eaters are necessarily tied to our physical hectares of arable land. Not surprisingly, Flannery dismisses the arguments of Des Moore, of the Institute of Public Affairs, who in 1993 argued that Australia "like the United Kingdom and Japan, could even become a net importer of food to cope with a population of more than 100 million".

Public Opinion

If the economic evidence is generally supportive of immigration, why is it that Australians seem unimpressed by it? Opinion polls have shown for some years the public's feelings against immigration. As long ago as 1984, a Morgan Gallup Poll asked people their attitude to the arrival intake of 72,000: 62% said it was too many. Polls since then have consistently confirmed a majority opposition to immigration since the 1970s (Betts, 1998).

So what do we make of public opinion? Some argue that public opinion is the opinion of the elite while the balance remain silent, internalising their inarticulate resentment until a spokesperson comes along to release (or capture) their pent-up feelings. If this view has credence, it is likely that the technicalities of the economics of immigration are lost to the simplified slogans of "migrants rob jobs", "immigrant ghettos" and "Asianisation". The challenge was well expressed recently by the Victorian Governor, Sir James Gobbo, who said it was "to create a fundamental change in public attitude that immigration is good for Australia economically". ■

The above are extracts from a much more extensive paper Dr. David Pope, Consultant and former Professor, Department of Economics, Research School of Social Sciences, ANU, published by the Business Council of Australia and available on their web site www.bca.com.au

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Distinguished Speaker Series

The following are extracts from an address entitled "The Australian-American Alliance: Where to From Here", by Her Excellency Mrs Genta Hawkins Holmes, U.S. Ambassador to Australia, given at a Distinguished Speaker Dinner on Thursday, 6 April 2000, at the Sydney Hilton, Sydney

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AN ALLIANCE OF BELIEFS

Our political and security alliance is the concrete expression of our mutually held beliefs. Security and defense cooperation, traditionally the nucleus of our alliance, remains today at the very heart of our overall relationship.

We do not face the same threats as we did in World War Two or during the Cold War, but our world is still a very

dangerous place.

Today's threats are more varied and less overt, but they are real enough. Their consequences affect the lives of millions of people around the globe – from Kosovo, to Iraq, to the Congo, to East Timor.

In the face of these threats, America and Australia will need to maintain modern military and intelligence establishments capable of working together.

We cannot know exactly where or when we might have to call on these capabilities. But it would be imprudent not to have them. If there is one lesson we ought to have learned over the past ten years, it is that we must expect the unexpected.

Who would have dreamt two years ago that Indonesia would withdraw from East Timor, or that Australia would be called on to muster and lead an international intervention force?

Since we cannot predict when or where the next crisis will erupt, vigilance and preparedness are essential aspects of our alliance. So too is a common vision of a world where freedom, democracy, the rule of law, respect for human rights and economic opportunity are the norm, not the exception.

These are the shared touchstones of our societies, the ideas from which our views, our values and our actions derive. They underpin our alliance because they are values worth defending and promoting.

I cannot imagine that our nations' commitment to these basic principles would ever change. As pluralistic democracies we may disagree from time to time on how to secure these benefits for the world, but not on the need to do so.

Indeed, extending to others these blessings is one of the core challenges we face in the 21st century. We may work at different speeds or with different methods, but the U.S. and Australia will

After serving three years as the American Ambassador to Australia, I know the pitfalls of trying to oversimplify our relationship. Trying to summarize our relationship in a brief speech is a bit like trying to paint a moving object.

At what moment do you try to freeze the motion. What angle, what aspect do you choose to portray?

Our relationship has many defining moments and aspects. This evening I would like to focus on three core elements:

- our alliance of beliefs,
- our alliance of interests, and
- our alliance of people.

The first of these is fundamental, an immediate and enduring point of reference. Here I think of our political and security partnerships.

The second element gives our relationship its color and dynamism; it also provides contrast and challenge. This is the realm of our economic ties.

Finally, there are those aspects of a more subtle, intangible character, ones that form a web of millions of personal experiences between two peoples. These are our interwoven histories, our shared goals, our cultural affinities, laid down by generations of Americans and Australians working with shared purpose.

From the vantage point of someone whose job it is to live and work the relationship every day, let me offer some observations about these three elements.

Pictured from left to right: Dr Roland Williams, Mrs Genta Hawkins Holmes, Professor Gavin Brown, Professor Ashley Goldsworthy.



2000

Distinguished Speaker Series

In 1998 BHERT introduced a Distinguished Speaker series of addresses each year featuring eminent "thought leaders" speaking on topics of interest to both the business community and academe.

We are delighted to announce the following Distinguished Speaker for 2000, as follows:

Mr Donald McDonald AO, Chairman of the Australian Broadcasting Corporation since 1996, will deliver a luncheon address entitled "Putting Quality First" in Sydney, on Wednesday, 9 August 2000 at the ANA Hotel, The Rocks, Sydney.

Mr McDonald has been involved in the administration of arts enterprises for over 30 years, including Sydney Theatre Company, Musica Viva Australia and Vogue Publications. He was General Manager of The Australian Opera for ten years until his retirement in December 1996.

Mr McDonald is a Board member of the Sydney Organising Committee for the Olympic Games and Chairman of the Constitutional Centenary Foundation. He is Chairman of The Really Useful Company (Australia) Pty Ltd, the University of New South Wales Foundation and Focus Publishing Pty Ltd. Mr McDonald recently resigned from the Boards of the Welsh National Opera, Opera Australia Capital Fund and the Perth International Festival. He was Chairman of the State Opera Ring Corporation in South Australia for two years to December 1998.

Members are asked to note this date in their diaries. Further information will be given in due course.

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almost certainly be pulling together towards common goals, just as we did in East Timor.

Australia led, and led well. "Boots on the ground" were plentiful in Timor thanks to Australia's coalition building. The United States provided unique capabilities – transport, logistics and intelligence available nowhere else – that made INTERFET's mission less arduous and less dangerous. This cooperation reflected perfectly the years of joint planning and exercising our forces have engaged in.

From this same alliance of beliefs have come our efforts to restrain a restive and menacing North Korea and to mutually assure its peaceful use of nuclear power. Our alliance of beliefs is also the source of our mutual support for Indonesia in its ongoing transition to robust democratic governance.

Similarly, as we look forward to a peaceful evolution of China and Taiwan's relationship, Australia and America share with others in the region a responsibility to urge restraint and flexibility.

More broadly, we will continue to work together to ensure that regional institutions such as APEC and the ASEAN Regional Forum remain viable centers of the Asian-Pacific dialogue.

Americans value Australia's strong regional engagement, and we accept that Australia looks to the United States to help secure its interests in the region.

For its part, Australia has a great deal riding on competent American management of tensions and crises in the East-Asia Pacific. You have the right to expect America to be prudent and responsible in discharging its regional and global obligations.

For our part, we will go on taking that obligation very seriously.

AN ALLIANCE OF INTERESTS

A second element of our bilateral relationship is what I have called an alliance of interests. It is a dynamic element, and in its very dynamism, more prone to friction.

As two of the world's premier natural competitors in agricultural goods, we are foreordained to suffer occasional collisions. And so we must regularly agree to disagree.

These bilateral irritants should not be allowed to obscure our very close cooperation in a variety of multilateral organizations. In APEC, at the WTO, the OECD, the IMF, the World Bank, and a dozen others, we are veteran collaborators, working together with other like-minded countries toward shared goals.

From its beginnings, the United States and Australia have joined together in support of a more equitable, rules-based world trading system under the World Trade Organization.

In the run-up to the recent ill-fated launch of a new round of WTO negotiations in Seattle, the U.S. Secretary of Agriculture sought out the Australian-led Cairns Group to voice our strong support for

agricultural trade liberalization. In Seattle, in the face of strong resistance by the Europeans and the Japanese, Australia and America joined with others to make significant progress on a draft text that would have provided the framework for our common negotiating agenda.

The suspension of the ministerial has put that text in limbo. Nonetheless, it remains the U.S. position that agricultural reform has to be far reaching and central to the next round.

It is the number one goal for both of our countries. And despite Seattle, we are proceeding as if the round had, in fact, been launched.

America has not abandoned its leadership role on trade liberalization. To the contrary, we're pressing initiatives that we want to see the world community address in creating a fairer and more efficient trading system.

We believe that the global trading system, in addition to being economically sound and supportive of free and fair commerce, must also be built on a solid ethical and political foundation. Trade does not take place in a vacuum.

President Clinton has called on U.S. negotiators to heed complaints about the WTO and to strive to give it what he termed "a human face." We would hope that Australia shares that view and will work with us and others to achieve those goals and other reform goals such as increasing transparency and accountability, and expanding coverage to other areas and other nations.

These are all goals worthy of an Australian- American alliance of interests and beliefs.

Closer to home in APEC, Australia and the United States are working to revitalize our regional agenda, to provide APEC with its own internal momentum and to coordinate its initiatives with work undertaken in the WTO and elsewhere.

Increasingly, we join together not just bilaterally but also with other like-minded countries within a wide range of multilateral organizations.

To cite just a few:

- following the agreement on the Kyoto Protocol, we have successfully joined together within the so-called Umbrella Group of industrialized countries to make certain that measures to reduce greenhouse gases are fair, cost effective and don't cripple the world's economy;
- here in Sydney next month we will gather with others in critical negotiations to begin to reverse the explosive expansion of the world's fishing fleet, which today threatens to empty our seas within a few generations;
- we recently supported an agreement to regulate global trade in biotechnology products, setting up rules that will protect the world's biodiversity while creating a framework for our scientists and farmers to pursue important opportunities in promising new technologies;

- Australian support was instrumental in the passage of a U.S. initiative within the OECD that is helping to level the international business playing field by criminalizing the bribery of foreign public officials.

The challenges facing the world today require, if not unanimous, at least collective responses. Australia and America have proven themselves able partners in building just the sorts of multilateral coalitions that are essential in an age of globalization. As globalization continues, we can expect to find ourselves allies in ever more areas. Our own alliance of interests will smooth our participation in this process. Building on the strength of that alliance, we can also foster the participation of others.

This brings me to my third characteristic of the Australian-American alliance.

AN ALLIANCE OF PEOPLE

Together, day in and day out, Americans and Australians sit down at negotiating tables, link up across the Internet, engage in scholarly debate, look into the far reaches of space, line up shoulder to shoulder awaiting a starting gun. Across the globe, every day, Americans and Australians cooperate and compete in a thousand pursuits.

A well-worn, invisible path winds its way across the Pacific, traced by the to-and-fro of generation upon generation of Americans and Australians. And the pace is quickening and new pathways are being forged.

We have overcome the tyranny of distance that physically separates our two nations. Jet travel and more recently the Internet have allowed us even greater opportunities to get to know one another. And it seems to suit us.

The number of Americans coming to Australia last year climbed 11 percent to 417,000 and somewhere mid-Pacific they passed 357,000 Australians headed the other way.

And they weren't all tourists. Americans are now your 3rd largest migrant group.

The number of Americans studying at Australian universities has skyrocketed, with over 4,300 now coming each year. Likewise, some 5,000 Australians are studying today at American universities.

The Australian Fulbright Commission, which recently marked its 50th anniversary, has sponsored over 5,000 educational scholarships for Australians to study and live in the United States.

American and Australian universities are currently party to more than 500 formal agreements and over a thousand informal ones. Australian study programs can be found at Harvard, Georgetown, the University of Texas and Michigan State University. In Australia, American Studies is thriving, with a core of dedicated and enthusiastic scholars and students across the country.

Our museums, our think tanks, our environmental NGOs are cooperating on an astounding variety of



Above: Mrs Genta Hawkins Holmes, US Ambassador to Australia

activities, from the excavation of Captain Cook's Endeavor in Newport Harbor to lobbying to protect the great white shark.

I am continually amazed at the diversity and richness of our ties, and at the breadth and depth of the institutional and individual connections between us.

From this deep well of common culture springs a profound sense of ease with one another. Never underestimate the comfort of being able to laugh together. Americans and Australians like each other. We recognize our similarities and appreciate our differences. Clearly our alliance of beliefs and interests are vibrant and strong because they are built on the deep bedrock of our natural affinity for one another.

As we move into this new century, Americans and Australians face a daunting array of challenges. Some are new, some all too familiar. In a complex and unpredictable world, where change occurs at an ever increasing pace, we will look to those we trust and understand to find our way through.

The truth is, our alliance of shared beliefs, interests and people is stronger than ever and needed more than ever.

As we meet our common challenges and pursue important shared goals, we know from experience that we can rely on one another.

Madeleine Albright recently remarked about key relationships such as ours that they "are the bonds that hold together the entire international system. When we are able to act cooperatively with other leading nations, we create a convergence of power and purpose that can solve problems and spur progress."

And that pretty well describes what our alliance is doing today and will be doing in the future — a convergence of power and purpose that solves problems and spurs progress. ■

GOVERNMENT SUPPORTS AWARDS

BHERT is delighted to announce again this year that the major sponsor of the 2000 Awards is AusIndustry and the Industry Research and Development (IR&D) Board.

The IR&D Board is an independent statutory body whose purpose is to administer specific Federal Government programs in support of industry-based innovation, and to provide advice to government on national industry-based R&D strategies and priorities. Its broad mission is to increase the level and commercial success of industry-based R&D in Australia.

AusIndustry, the Federal Government's program delivery agency, aims to encourage research and development and innovation within Australia. See the following pages for details on the 2000 Awards.

MAJOR SPONSOR

AusIndustry

INDUSTRY RESEARCH AND DEVELOPMENT BOARD

BHERT is delighted to announce the 2000 Awards for Outstanding Achievement in Collaborative R&D and Awards for Outstanding Achievement in Collaboration and Education and Training

Purpose

An annual program of prestigious awards initiated in 1998 to recognise outstanding achievements in collaboration between business and higher education in the fields of R&D, and education and training; with the objective of the program is to highlight at a national level the benefits of such collaboration, and enhance links between industry and universities.

Eligibility

At least one of the participating organisations nominated for the award must be a member of BHERT. At least one of the collaborating organisations must be in business and one in higher education.

Each submission must be signed by all participating partners.

Frequency

Awards are made annually and presented at the BHERT Awards dinner in November each year.

Number and Categories of Awards

There are two Groups of awards.

One Group comprises two separate categories, (1) R&D, and (2) Education and Training.

In each category, Awards are given for new initiatives, i.e. projects or programs in train for three years or less, and for established initiatives, i.e. projects or programs that have been in train for more than three years. These categories are further divided into projects or programs which involve companies with a turnover of less than \$50m per annum, and those with a turnover of more than \$50m per annum. This results in eight Awards.

The second group comprises two special Awards for collaborative R&D:

- Outstanding Achievement in International Collaborative R&D, and
- Outstanding Achievement in Collaborative R&D involving a Cooperative Research Centre.

An application may be submitted for an Award in one or both Groups, provided it meets the appropriate criteria. However, no application can win more than one Award.

Criteria for Assessment

- 1 Innovation** - has the project or program produced new products or services; how innovative is it in its concept or idea, design, delivery or content; what new barriers has it surmounted; what new challenges has it identified?
- 2 Strength of Relationship** - (a) what is the extent of involvement of the partners? (b) how has this grown over the life of the project or program? (c) how do the partners work together in a productive partnership? (d) are there obstacles and barriers the partners have had to overcome to make the collaboration work? (e) what other spin-offs have there been from the project or program for participating organisations?
- 3 Outreach Inclusion** - has the project or program attracted new participants since its inception; has it become a model for other projects or programs?
- 4 National Benefits** - these may be economic, financial, social, educational or community benefits: may include for example, growth in exports, creation of new jobs and so on.
- 5 Cultural Impact** - what impact has the project or program had on the cultures of the participating organisations? What changes have occurred in what is done and the way it is done in the participating organisations; what changes have there been in attitudes, behaviour or values in the participants?

PLEASE DESCRIBE HOW THE PROJECT OR PROGRAM PERFORMS ON EACH OF THE FIVE CRITERIA (ONE PAGE FOR EACH CRITERION)

Process

- 1 Applications for 2000 are now being sought from all members of BHERT.
- 2 Deadline for applications is **31 July 2000**.
- 3 Judging panel is:
Professor Leon Mann, Pratt Family Chair in Leadership & Decision-Making, Melbourne Business School (Chairman);
Dr Bob Frater, AO, Vice-President for Innovation, ResMed Limited;
Ms Lesley Johnson, Director of Strategic Initiatives Australian National Training Authority;
Mr Peter Laver, Chairman, Ceramic Fuel Cells Limited;
Dr Jane Munro, Principal & CEO, Firbank Grammar School;
Professor Vicki Sara, Chair, Australian Research Council;
Dr Peter Scaife, Director, Centre for Sustainable Technology, University of Newcastle.
- 4 Evaluations will be completed by **2 October 2000**.
- 5 Awards will be presented at the BHERT Awards and 10th Anniversary Dinner on **16 November 2000 in Melbourne**.
- 6 Submissions to be no more than one page on each of the above criteria.
- 7 Completed submissions to be sent to the Business/Higher Education Round Table at the following address:
L 5, 1 Spring Street Melbourne Vic 3000
Ph: 03 9654 8824 Fax: 03 9654 8835
Email: bhert@ozemail.com.au

APPLICATION FORMS CAN BE OBTAINED BY CONTACTING THE SECRETARIAT OR DOWNLOADING FROM THE BHERT WEBSITE ON WWW.BHERT.UTS.EDU.AU

CRC LEADERSHIP AND CAREER DEVELOPMENT COURSE RETURNS TO MELBOURNE

BHERT has again supported the CRC Leadership course with four BHERT Scholarships

The third CRC leadership Course for PhD students and PostDoctoral fellows was held in Townsville November 23-27 1999, with two of the participants, **Greg Doherty** and **Rosalie Pollock**, awarded BHERT scholarships. Professor **Leon Mann**, Course Co-Director, credited much of the success of the Course to the hard work of the Organising Committee of **Don Alcock** and **Vicki Hall** (CRC Reef), **Kerry Moore** (CRC Rainforest) and **Patricia Kennedy** (CRC Sugar).

The fourth CRC Leadership Course was held in Melbourne, 1-5 May, this year. The course was again a success, attended by 30 young scientists and technologists from 17 CRCs (Cooperative Research Centres) from all States of the Commonwealth. In addition to sessions on leadership, team building, communication, problem solving, decision making and creativity, the participants worked on their career plans and steps to be taken into the world of work. The program included a panel discussion on "The changing environment of science and technology" with speakers **Dr Jane Niall** (Victorian Department of State and Regional Development), **Dr Annabel Duncan** (CSIRO Division of Molecular Science), **Dr Greg Smith** (Strategic Industry Research Foundation) and **Dr Roger Edwards** (CRC for International Food Manufacture and Packaging Science).

BHERT awarded scholarships to four participants in the Course: **Jeff Boyle** (CRC for Vaccine Technology), **Emma Hume** (CRC for Eye Research and Technology), **Simon Costanzo** (CRC for Coastal Zone, Estuary and Waterway Management) and **Jason McKenna** (Australian Petroleum CRC).

Course Directors, **Professor Leon Mann** (Melbourne Business School) and **Associate Professor Bob Marshall** (CSIRO and Melbourne Business School) stated that the Course continues to grow in impact and reputation and that BHERT's support was a major stimulus to participation by outstanding students and PostDocs. Plans are now underway for the year 2001 Course to be held in Melbourne.

Pictured left to right: BHERT Scholarship winners Emma Hume, Simon Costanzo, Greg Boyle and Jason McKenna.



LEADERSHIP IN INNOVATION COURSE

One of the most exciting initiatives BHERT is involved in is the unique Leadership in Innovation program.

The program is an intensive three-module live-in training course for prospective R&D managers developed by the CSIRO and the Business/Higher Education Round Table (a forum of business leaders and university vice-chancellors) with significant input into the program from BHP, FH Faulding, and the University of Melbourne.

The Achievement Through Teams - Leadership in Innovation program involves three residential periods of five days duration (commencing on a Sunday afternoon and finishing Friday lunch time). Module 1 is about Self-Management; Module 2, Team Building and Module 3, Organisation Culture and the Future of R&D.

The residential courses are held at small, quality conference centres close to capital cities.

The course design is specific to the needs of R&D technical project leaders; brings together participants from across organisations and functions; encourages integration of professional behaviour with personal goals; and encourages leadership through trust, respect for others and generating enthusiasm for a project.

The program is highly responsive to individual and group needs and provides an environment where participants form a strong learning community and ongoing networks.

The cost of the course is \$10,000, which includes accommodation and meals, all training, course materials and coaching between modules.

The Federal Minister for Education, Training and Youth Affairs has provided a 50% subsidy, amounting to \$240,000, for 48 university participants to attend the program over the next two financial years.

Dates for Achievement Through Teams Courses for 2000/2001 are as follows:

ATT 14	Module 1	15-20 October 2000
	Module 2	3-8 December 2000
	Module 3	4-9 February 2001
ATT 15	Module 1	11-16 February 2001
	Module 2	25-30 March 2001
	Module 3	29 April - 4 May 2001
ATT 16	Module 1	18-23 March 2001
	Module 2	6-11 May 2001
	Module 3	17-22 June 2001
ATT 17	Module 1	20-25 May 2001
	Module 2	24-29 June 2001
	Module 3	29 July - 3 August 2001
ATT 18	Module 1	26-31 August 2001
	Module 2	21-26 October 2001
	Module 3	2-7 December 2001

Information: Margaret Redford, Ph: 02 6276 6265 or email: Margaret.Redford@lctd.csiro.au



This highly successful program operates in over 500 universities globally and involves some 2000 faculty advisers and 25,000 students, and has the support of over 200 major corporations in the US. It is now operating in Australia.

SIFE's mission is "To provide university students the best opportunity to make a difference and to develop leadership, teamwork and communication skills through learning, practicing and teaching the principles of enterprise and innovation in a market economy".

In a nutshell, SIFE involves students from a university conducting projects in the community which will assist in promoting economic understanding. Students may then enter their project in a national competition which is judged by invited CEOs. The winning team then competes in the international competition in the United States.

Sponsorship is used to provide training for university mentors, prizes for national winners and runners up, and 5 tickets for the winning team to attend the international competition.

Awards are also made each year at the National Competition to outstanding business contributors to SIFE.

The program is being strongly supported in Australia by a number of businesses including **Woolworths, Arthur Andersen, KPMG, Arnotts Biscuits, QANTAS, GE Capital, Kinko's, and The Reject Shop.**

It is also supported by **BHERT** (the Executive Director, Professor Ashley Goldsworthy is also Chairman and CEO of SIFE Australia Ltd), the **Australian Chamber of Commerce and Industry**, and the **Australian Retailers Association.**

There are now 11 universities participating and many others have indicated they will be joining the program.

UTS	Griffith
UWS	QUT
Newcastle	Flinders
NSW	SA
Southern Cross	RMIT
Monash	

It was decided in February to mount a National Competition this year, to meet the deadline for the international competition.

Four of the universities took up the challenge, *with only 8 weeks to prepare* - University of New South Wales, University of South Australia, Southern Cross University, and Griffith University. The inaugural competition and awards dinner was held in Sydney on 29 April 2000.

The teams presented their projects and demonstrated how free enterprise principles were taught to participants, and how profitable and worthwhile outcomes were achieved for all involved.

The project presentations were judged by Roger Corbett, CEO Woolworths Limited; John Harkness, Chairman of Partners-NSW KPMG; Craig Jackson, Partner Arthur Andersen; Barry Saunders, Managing Director, The Reject Shop; Bill Healey, Executive Director, Australian Retail Association - NSW; and Steven Leighton, Sales Manager, Heinz Watties.

Prizes and travel totalling \$30,000 were awarded to the winning team and runners up.

Some of the SIFE projects presented by the 4 teams included working with a local museum to develop the business skills to make it a profitable tourist operation; working in conjunction with Australian Business Week and enhancing their program by providing the participating high school students with increased team building and leadership skills; working with local RSL Clubs to provide advice on more profitable as well as environmentally sound energy programs; upskilling local small businesses in computer programs; and working with students in lower socio-economic groups to prepare them for taking on tertiary education.

The panel of judges selected Griffith University as the winner of the KPMG SIFE Australia National Competition. Dr. Campbell Fraser and his team of students (Daphne Mole, Pamela Fitzgerald, Amanda Parker and Amanda Margerison) travelled to Kansas City, Missouri, USA in May to represent Australia in the Hallmark Cards SIFE International Exposition - a first for Australia.

It was a great honour for Griffith University and Australia to be represented at such a prestigious international competition with 125 teams competing.

The team from Griffith University did an outstanding job and were excellent Australian ambassadors at the International Exposition, and to cap it all won "Rookie of the Year".

Several other universities have now committed to entering the competition which will be held each December from now on, in preparation for the international competition the following May.

Some comments about SIFE from CEOs are as follows:

"Woolworths is one of the largest employers of young people in Australia, and as such, we are committed to giving time, energy, and financial assistance to a program which not only benefits the students, but also the community. I applaud the SIFE program as one of the most successful and significant in bringing universities, businesses, and the community together in a single endeavour."

Roger Corbett CEO Woolworths Limited

"Innovation and enterprise are catch cries in the new economy. SIFE is an organisation which fosters these ideals, providing young people with the opportunity to channel their energy and enthusiasm for the benefit of the community, free enterprise, and their own career development."

John Elliott, Partner Arthur Andersen

"Australia needs a more enterprising and innovative economy. We need a society that is creative and entrepreneurial. The leadership, teamwork, communication and management skills practiced in SIFE will stand students in good stead in whatever they do in later life. Australia will benefit because many more will have experienced the benefits of free enterprise".

Professor Ashley Goldsworthy AO OBE, Executive Director, BHERT and Chairman and CEO of SIFE Australia Ltd

"KPMG in the United States has supported SIFE for a number of years and KPMG is now working with SIFE in a number of countries including Australia. We see it as an outstanding opportunity for students to come in contact with the business community while still at university, whilst at the same time undertaking projects which will really benefit the community"

Doug Jukes, Partner KPMG

"Arnott's has a long history of helping young Australians get a head-start in their careers. And that's exactly what SIFE is about. It provides young people with a terrific opportunity to develop their entrepreneurial spirit through working with businesses and the community"

John Doumani, Managing Director, Arnott's.

BHERT HIGHER EDUCATION SUMMIT

On 17 November 1999, BHERT convened a one-day Higher Education Summit, for members only, which was attended (all day) by the Hon. Dr David Kemp, MP, Federal Minister for Education, Training and Youth Affairs.

The meeting was very successful and feedback from those participating was extremely positive, as was the Minister himself.

The real success will be in the outcomes that flow from the meeting. The meeting itself was useful as the commencement of a regular dialogue between BHERT and the Minister. It also highlighted a number of issues that needed to be addressed by various stakeholders in higher education.

Another benefit was that the Minister indicated quite clearly that he welcomed advice from a variety of sources, and he saw BHERT as being a valuable potential source of advice.

This opens up some new opportunities for BHERT, and it would be remiss of us if we did not grasp the moment.

As a consequence we sought volunteers from our membership to establish Task Forces on some key issues. The objective of a Task Force is to examine an issue and produce a Position Paper for the Minister that gives him an option or perhaps several alternative options for addressing that issue.

The response was overwhelming. Below is a list of the Task Forces that have been established and their membership.

If anyone from a member organisation wishes to participate in any of these Task Forces, would they please contact the co-ordinator (first person mentioned) of the Task Force they are interested in.

Generic Skills

Professor Paul Hager, Faculty of Education, UTS (Dr David Beckett, Dept of Education Policy & Management, University of Melbourne)
Professor Anne Martin, Deputy Vice-Chancellor, Deakin University
Professor Bill Lovegrove, Deputy Vice-Chancellor, Griffith University
Professor Elizabeth Harman, Deputy Vice-Chancellor, Edith Cowan University

Greater Involvement by Industry in Education and Training

Joe Fischer, Group General Manager Human Resources, P&O Australia
Professor Rod Belcher, Faculty of Engineering, UTS
Professor Brian English, Deputy Vice-Chancellor, University of Newcastle
Professor Sandra Harding, Dean, Faculty of Business, Queensland University of Technology
Professor Trevor Cairney, Director of Regional Development & Partnerships, University of Western Sydney, Nepean

Education Needs of the IT Industry

Rob Stewart, Chairman, Melbourne IT
Professor John Hughes, Faculty of Mathematical & Computing Sciences, UTS
Professor Paul Swatman, Head, School of Management Information Systems, Deakin University
Professor Robin Stanton, Pro-Vice-Chancellor (Academic), Australian National University
Mr David Thodey, Chief Executive Officer, IBM Australia Limited
Prof. Ann Deden, Pro-Vice-Chancellor (Teaching, Learning & Technology), Edith Cowan University

Should Higher Education be Viewed as an Industry?

Professor Mary O'Kane, Vice-Chancellor, University of Adelaide
Professor Don Aitkin, Vice-Chancellor, University of Canberra
Professor Margaret Gardner, Pro-Vice-Chancellor (Business & Equity), Griffith University
Professor Bernard Carey, Deputy Vice-Chancellor, University of Western Sydney, Hawkesbury

The Need for Greater Investment in Higher Education in Australia

Professor David Beanland, Vice-Chancellor, RMIT University
Professor Denise Bradley, Vice-Chancellor, University of South Australia
Peter Harris, External Affairs & Communications, Shell

The Role of Regional Universities

Professor Hilary Winchester, President, University Academic Senate, University of Newcastle
Mrs. Margie Cole, Assistant Registrar, Northern Territory University
Professor Andrew Glenn, Pro-Vice-Chancellor (Research), University of Tasmania
Professor Paul Thomas, Vice-Chancellor, University of the Sunshine Coast
Professor Kevin Sproats, Professor of Urban & Regional Governance, University of Western Sydney

How Seamless Should Higher Education Be?

Professor Lesley Parker, Senior Deputy Vice-Chancellor, Curtin University
Professor Iain Wallace, Vice-Chancellor, Swinburne University

What is Needed to Make Australia a Truly Learning and Knowledge-Driven Society

Professor Ian Reid, Deputy Vice-Chancellor (Teaching & Learning), Curtin University

How Should Diversity in the System be Encouraged?

Dr John Clarke, Manager, Strategic Policy & Planning, University of Southern Qld
Professor Iain Wallace, Vice-Chancellor, Swinburne University
Professor Paul Thomas, Vice-Chancellor, University of the Sunshine Coast
Professor Chris Duke, Deputy Vice-Chancellor, University of Western Sydney, Nepean

Sharing Administrative Functions Between Universities at Lower Costs

Kevin Woods, Pro Vice-Chancellor (Resource Management), Murdoch University

The Importance of the Social Sciences in Policy Development at Government Level

Professor John Wood, Pro Vice-Chancellor (Research & Advancement), Edith Cowan University
Professor James Walter, Pro-Vice-Chancellor (Arts), Griffith University
Assoc Professor Kerry Carrington, University of Western Sydney, Hawkesbury

Telecommunications Infrastructure

Rob Cartwright, Group Managing Director Employee Relations, Telstra
Dr Jeff McDonnell, Director ITS, University of Southern Qld
(Mr Steve Tanzer, Registrar, USQ)
(Mr Merv Connell, Network Manager, CQU)
Professor Brian Anderson, Director, Research School of Information Sciences & Engineering, Australian National University

The Critical Importance of Lifelong Learning

Professor Peter Sheehan, Vice-Chancellor, Australian Catholic University
Dr Mark Toner, Chief Executive Officer, Kvaerner Process
(Ms Sheila Deane, HR Director, Kvaerner Process)
Professor Marilyn McMeniman, Dean of Education, Griffith University
Professor Judith Chapman, Director, Centre for Lifelong Learning, Australian Catholic University

Impact of the Internet on Education Service Delivery

David Buckingham, Executive Director, Business Council of Australia
Professor John Dearn, Director, Centre for the Enhancement of Learning, Teaching & Scholarship, University of Canberra
Ms Helen Hayes, Vice-Principal (Information), University of Melbourne
Professor Brian Platts, Deputy Director, Institute for Interactive Multimedia, University of Technology, Sydney
Mr Bernie O'Donnell, Pro-Vice Chancellor, (Planning & Development), Charles Sturt University
Professor Jim Hann, Executive Director, Information Services, Southern Cross University

Immigration Restructures

Professor Lindsay Mackay, Pro-Vice-Chancellor, Deakin University
Dr Rakesh Agrawal, Chair of the School of Business & Industry Operations Management, University of Western Sydney, Nepean
Ms Sue O'Keefe, Director of International Centre, University of Western Sydney, Hawkesbury

The effects of the increasing number of private providers entering higher education

Assoc Professor Roger Alexander, Chair, Dept of Design, University of Western Sydney ■

BHERT Policy Statements & Papers

As a unique group of leaders in Australian business, higher education and research organisations, the Business/Higher Education Round Table (BHERT) sees as part of its responsibility the need to articulate its views on matters of importance germane to its Mission. In recent times it has issued several Policy Statements & Papers – copies of which are available from the BHERT Secretariat.

Position Paper No. 1 (July 1998) – Higher Education in Australia: The Global Imperative

The Business/Higher Education Round Table (BHERT) comprises the chief executives of many of Australia's major corporations and the vice-chancellors of Australia's universities, with the mission of advancing the goals and improving the performance of both business and higher education for the benefit of Australian society.

Education and training is a key ingredient in growing and developing the Australian economy. The industries of tomorrow are going to be increasingly knowledge-based. Higher education therefore is critical to the future of this country; in creating a "learning society" in which all Australians, of whatever social, cultural and economic background, have access to a post-secondary education of excellent value.

Without a national vision and sufficient investment in our higher education system, Australia and today's young Australians are likely to be marginalised as the region moves towards higher welfare standards and more advanced social and political structures. Our goal is that Australia must develop the expertise of its human resources so that it is a significant regional leader in professional, service, education and technological fields.

In today's environment there is a certain tension which universities and their staff feel in attempting to maintain the traditions of high quality research, scholarship and teaching.

Increasingly, reducing resources, coupled with a greater emphasis on revenue raising and entrepreneurial activities as well as inter-institutional competition, both domestic and international, have led universities and their staff to question their capacity to maintain the quality of the learning experience that they provide and the values of the research they undertake.

BHERT has identified the necessary key features of the higher education sector in this country - the prerequisites for Australian universities to compete effectively at the highest international levels.

Position Paper No. 2 (October 1998) – The Development of Cooperative Research Centres

CRCs were established in Australia in 1991 to foster ties between universities, industry and government departments and research organisations, in order to bring research closer to commercial realities and provide education and training opportunities. The program was established to address a number of specific issues, among which were:

- 1 The need to ensure that advances in science and technology were linked to applications in various sectors of the economy.
- 2 Related to this was the need to improve international competitiveness. The need to ensure that Australia's undergraduate and graduate programs in science and technology were of world class; specifically involving researchers from outside the higher education sector to ensure better quality and performance.

The CRC Program was to play an important role in ensuring that Australia benefited from the strength of its science and technology resources. Specifically, it would help ensure that Australian research and research training remained at the forefront in those areas of specific importance to the country as a whole.

There are 67 Centres currently operating in six industrial areas:

- manufacturing technology;
- information and communication technology;
- mining and energy;
- agriculture and rural based manufacturing;
- environment; and
- medical science and technology.

Overall the program has resulted in a strongly positive effect on Australian spending on research and development by government departments, universities, CSIRO and other public R&D agencies and industry.

Position Paper No. 3 (April 1999) – The Case for Additional Investment in Basic Research in Australia

In the latter half of this decade many OECD governments, including the US, Japan, Germany, UK and Canada, have recognised public investment in basic research as essential for economic development. Emerging Asian economies, despite the setbacks of the recent financial crisis, are maintaining growth in public investment in R&D including basic research. All these countries have provided additional funding for basic research despite competing budget priorities.

Much of the economic growth in this decade is attributable to the growth of knowledge based industries particularly those associated with information technology and biotechnology.

Returns on investment in basic research over the next decade are expected to be even greater than in the 1990s. Completion of the sequencing of the human genome scheduled for 2003, for example, will provide unprecedented opportunities for growth in biotechnology industries for countries able and willing to position themselves. Australia is one of only eight to ten countries that have this capability. Continuing rapid advances in information and communications technologies provide immense opportunities for nations prepared to exploit them.

As in the case of the UK, where substantial funding increases for research were provided within the context of a Competitiveness White Paper, Australia needs to ensure that additional funding is provided within a broader policy framework. Such a framework should ensure maximum returns from this investment through diffusion of knowledge to industry and community, improving the skills level of the workforce, encouraging organisational culture change and collaboration, and promoting competition.

BHERT PAPERS

BHERT Paper No. 1 (June 1999) – R&D Leadership Training: Direct Contribution to an Enterprise

Background

One of the biggest issues facing an enterprise is achieving commercialisation outcomes in the face of unpredictable change. Nowhere is this more challenging than in the area of transforming ideas and inventions into fully developed products genuinely valued by the marketplace. Leadership of R&D activities, particularly the development phase, and achievement through teams are critical to the success of an enterprise where many multi-disciplinary interactions and complex processes must be orchestrated to achieve desired outcomes.

F. H. Faulding & Co. Ltd is a diversified health and personal care company. Faulding's principal businesses are generic oral and injectable pharmaceuticals, consumer health products, the provision of distribution and retail management services to pharmacies and logistics management services to hospitals. Faulding markets its products to, and has representation in, over 70 countries and employs 3,500 people worldwide.

The Investment

The CSIRO-BHERT R&D Leadership Program was selected to be the vehicle to assist driving change and improvements in Faulding's development processes.

Organisational Outcomes

Although the initial focus was on improved technical outcomes, an equally important benefit has been the major contribution of course participants in helping to resolve operational issues and implement major strategic and organisational change.

The team of trained participants has helped reduce total development and technology transfer times by 25-30%.

A significant increase in the number of parallel activities has been achieved with a greater number of projects and product introductions being handled simultaneously.

Personal Outcomes

Due to its experiential approach the course has had a lasting and positive impact on all participants. Without exception all participants realised significant personal outcomes from the course - both in their professional and private lives.

Summary

In the context of the enterprise, benefits from the course require a significant commitment from management to ensure that a "critical mass" of participants is built up as quickly as possible.

Based on this experience the critical mass for training is believed to be approximately 10% of potential leaders from all relevant functions and the return on this investment in training is at least 10-fold within the first year - (in Faulding's case this represents a dollar contribution to the bottom line of \$1.5 million in the first year).

BHERT Paper No. 2 (August 1999) –

The Knowledge-Based Economy: – some Facts and Figures

Issue No. 5 (June 1999) of BHERT NEWS focussed on "The Knowledge Economy of Tomorrow". This BHERT Paper extracts a number of statistical indicators from a document published in June 1999 by the Organisation for Economic Co-operation and Development (OECD), and provides some useful and interesting comparative data on Australia's relative global position within the context of the knowledge-based economy.

BHERT Paper No. 3 (September 1999) –

BHERT: Survey of Benefits from Commonwealth Government Business Programs

In recent times there has been considerable debate on the level of R&D undertaken by business in Australia, how we compare with other developed nations, and the trend of business expenditure over recent years.

Government programs designed to promote and encourage R&D and innovation obviously play a significant role in this context.

Raw statistics, whilst helping to measure and track levels of expenditure, do little to explain the underlying reasons for changes or trends in levels of expenditure.

BHERT recognises the fundamental importance of R&D as the main driver of innovation, and the critical role government policy plays in building a supportive infrastructure for R&D.

In this context BHERT decided to conduct a survey across a range of companies to try to better understand the reasons behind the statistics and the impact various Commonwealth Government programs were having on business R&D expenditure.

The Report identifies what the respondents saw as the critical issues in R&D support and provides a series of compelling short case studies highlighting the experience of the business community with various government business programs in support of R&D.

MEMBERS OF THE BOARD

The purpose of the Business/Higher Education Round Table (BHERT) is to pursue initiatives that will advance the goals and improve the performance of both business and higher education for the benefit of Australian society.

It is a forum where leaders of Australia's business, research and academic communities can examine important issues of mutual interest, to improve the interaction between Australian business and higher education institutions, and to guide the future directions of higher education.

Mission Statement

In pursuing this mission BHERT aims to influence public opinion and both government and non-government policy on selected issues of importance.

BHERT believes that a prerequisite for a more prosperous and equitable society in Australia is a more highly-educated community. In material terms it fosters economic growth and improved living standards - through improved productivity and competitiveness with other countries. In terms of equity, individual Australians should have the opportunity to realise their full social, cultural, political and economic potential.

The membership of BHERT comprises, by invitation, the chief executives of major Australian corporations and research organisations, and the vice-chancellors of Australian universities.

BHERT pursues a number of activities through its Working Groups, State Chapters and active alliances with relevant organisations both domestically and internationally. It publishes a regular newsletter (BHERT NEWS), reporting on its activities and current issues of concern relevant to its Mission.

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Executive Assistant:
Anne Munday

PLEASE NOTE THE FOLLOWING DATE FOR
THE REMAINING BHERT MEETING FOR 2000:
Thursday, 16 November 2000
Melbourne – Sheraton Towers Southgate –
2.30pm - 5pm (inclusive of Annual General Meeting)
<i>followed by Awards and 10th Anniversary dinner.</i>

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OF DOLLARS & CENTS REPORT

This study, by the Institute for Research into International Competitiveness at Curtin University of Technology in Perth, commissioned by the Business/Higher Education Round Table (BHERT), quantifies for the first time the enormous contribution made by the university sector to the national economy.

The study measures the economic impact of the university sector in three ways -

1. The income and employment generated by teaching and research;
2. The enhancement of the nation's human capital through its education of university graduates; and
3. The creation of wealth through the spillover effects of its R&D activities.

The Report quantifies each of these impacts separately. It shows that the government gets a positive payback in a number of ways.

It is interesting to note that less than half the total economic impact of the university sector comes from the direct expenditure of universities. Of more significance is the estimate that the total impact is some \$22 billion per year.

The Report provides a unique insight into the information and methodologies utilised in the study. It underlines the importance of higher education as an "economic good."

In his Foreword to the Report Dr. David Kemp, Minister for Education, Training and Youth Affairs says:

"...it provides a foundation from which to consider the crucial issues of public and private funding of higher education." And further "...note(s) how valuable the information it contains will be for everyone interested in higher education issues."

See order form on page 48...



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