

Myths and the fear of an ageing population

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Fertility rates in most industrial societies have been falling for many decades. At the same time life expectancy has increased with the result that the average age of the population has risen. The number of children is gradually falling relative to the number of older persons. The greying of affluent societies has led to fears that there will not be enough individuals of working age to support the increasing numbers of elderly and at first glance these fears appear justified. Opinions expressing fear of an ageing society have received wide coverage ⁽¹⁾ and some express fear quite forcibly, predicting 'catastrophic economic and social consequences.'⁽²⁾ Publications expressing the opposite view have been fewer.⁽³⁾

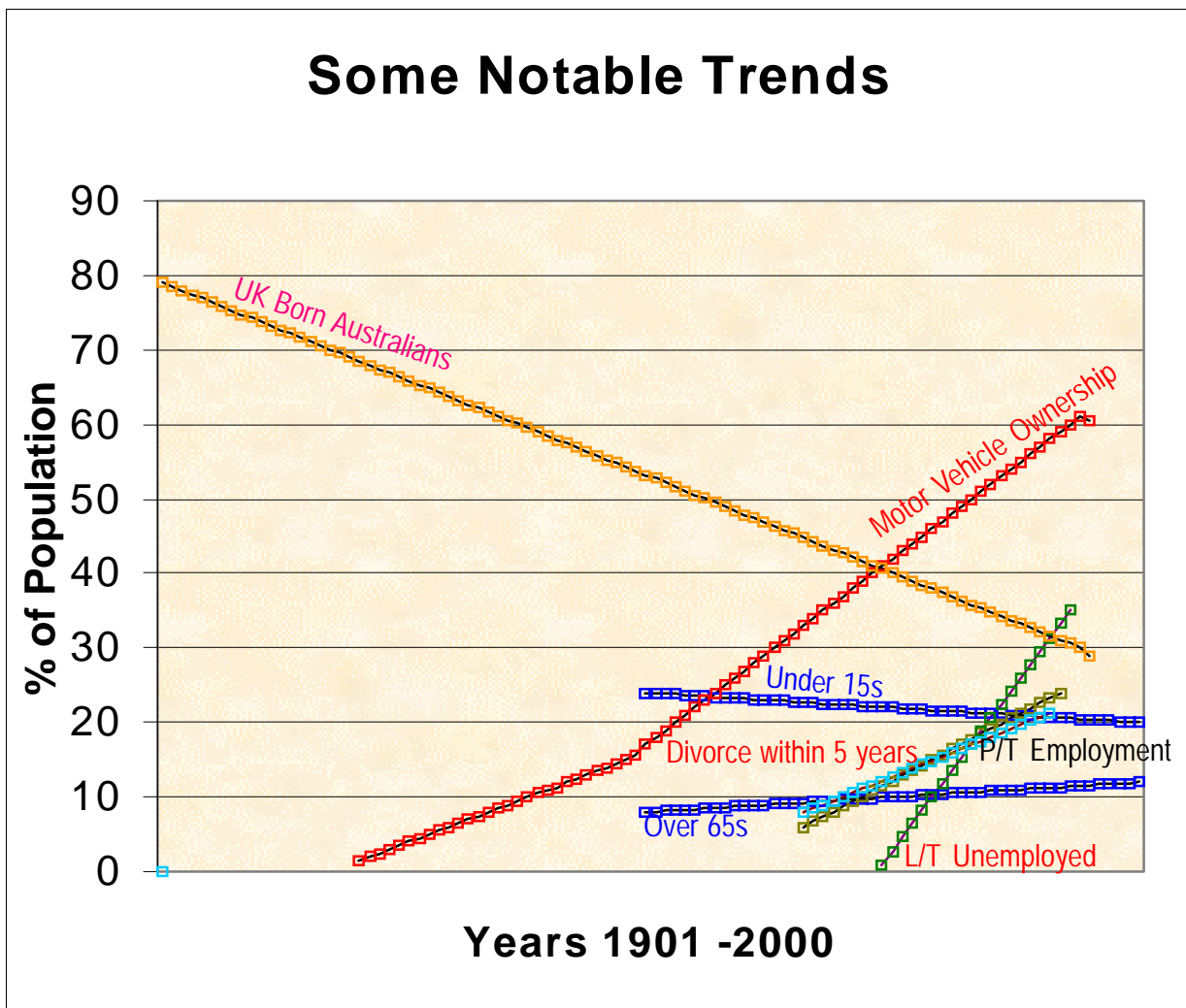
However a closer examination of the 'costs' and 'benefits' of differing age cohorts reveals that fear has little foundation and that the implications of an ageing population are not necessarily adverse. The debate has been described as a 'phoney war'. ⁽⁴⁾ This article examines recent Australian research

relevant to the ageing of our population and concludes that fear is unnecessary

AGEING IS A RELATIVELY SLOW SOCIAL TREND

While the increasing average age of Australians is a trend of which we should be aware and for which we should plan, it is a slow change relative to many others. Over the last half century the proportion of Australians aged under fifteen has shrunk from 24 per cent to 20 per cent, while the proportion aged over 65 has grown from 8 per cent to 12 percent. Our society has coped with this slow change and it should continue to cope over the next half century during which the proportion of youth is expected to fall to 16 per cent and that of the elderly grow to 24 per cent.⁽⁵⁾

The slow ageing of our society can be compared to other more rapid changes such as the following. Between 1966 and 1992 part-time employment

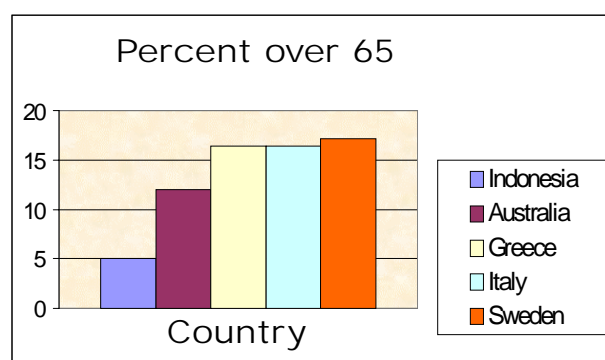


Many important social changes have exceeded in speed and size the gentle fall in the number of young and the equally gentle rise in the number of those over 65.

almost quadrupled.⁽⁶⁾ The number of motor vehicles (excluding motor cycles) registered per 1000 of population rose from 15 in 1921 to 170 in 1951 to 606 in 1995.⁽⁷⁾ The Vietnamese born population in the NSW Local Government Area of Bankstown increased 38 per cent between 1991 and 1996. The number of international visitors to Australia increased at an average of 25 per cent between 1984 and 1988.⁽⁹⁾ The incidence of long term unemployment among the unemployed rose from about 1 per cent in 1974 to about 35 per cent in 1993.⁽¹⁰⁾ The proportion of marriages lasting less than five years rose from 7.9 per cent in 1966 to 21.3 per cent in 1991.⁽¹¹⁾ The proportion of overseas born Australians born in the UK and Ireland dropped from 79 per cent in 1901 to 29 per cent in 1995.⁽¹²⁾

Australian society and economy absorbed the above rapid changes as they did the slow increase in the average age and there is no evidence to suggest that they will not continue to absorb changes in our age structure.

It is also worth noting that Australia remains a relatively young country compared with some others. In 1996 the percentage of the population over 65 was — Australia 12, Sweden 17.1, Italy and Greece 16.4. Sweden, Italy and Greece are on average older than Australia but they do not suffer socially or economically as a result. (These nations could be contrasted with ‘young’ countries with fewer than 5 per cent over 65 years — for example Indonesia, Papua New Guinea and Malaysia. The relative youth of these nations does not result in obvious benefits)⁽¹³⁾



Some commentators are concerned about potential growth in the cohorts over 85 years and indeed, if by the end of the twenty-first century 10 per cent of our population were aged over 90, this may be of concern. However the situation will develop slowly, may prove no more of a problem than ageing to

date, and may never eventuate.

HEALTH COSTS OF THE AGED

Graphs of health costs per capita for different age cohorts show that these costs rise as we reach an advanced age. It is therefore entirely plausible to conclude that if the proportion of older persons increases then national health costs will rise. Surprisingly, this is not necessarily so. Researchers describe the reasons most eloquently.

McCallum and Geiselhart⁽¹⁴⁾ note that ‘...costs have more to do with time from death than with time from birth. Thus population ageing has minor cost implications because it shifts the high cost periods to later ages without increasing the years over which high costs are incurred.’ They also refer to a study of health cost increases in 20 countries found to be attributable to rising per capita income, technological changes and other trend variables which affect people of all ages and cannot be attributed to ageing. The Australian Bureau of Statistics (ABS) states that the ‘period of life for which older people make the most intensive use of health care resources, i.e. the two years preceding death, is not expected to widen significantly in the future’.⁽¹⁵⁾ Richardson and Robertson⁽¹⁶⁾ did an analysis of health expenditures in member countries of the OECD⁽¹⁷⁾ and found that ‘age cannot be regarded as a significant determinant of national health expenditures. Large differences in demographic structure are consistent with little or no difference in health expenditures per capita.’ ‘However predicting health care costs is difficult, partly because they are driven primarily by non-age-related factors. Depending on the assumptions made, it is possible for health expenditure to rise or fall as a proportion of GDP.’⁽¹⁸⁾

In summary, per capita health costs are not high because of age itself. Happily, most Australians reach an advanced age, but only those within two or three years of death are likely to be expensive in terms of health costs. Thus the average health costs of older cohorts is high because of the high proportion of those who have reached those expensive years. Living longer will not necessarily increase overall health costs, particularly as a proportion of Gross Domestic Product (GDP).⁽¹⁹⁾

THE AGE BASED DEPENDENCY RATIO

This ratio is based on the assumption that everyone between 15 and 64 is employed,

paying taxes and assisting in the support of the nation's dependents, the latter being everyone aged 0-14 and everyone over 64. Over the next few decades in Australia the increase in the number of elderly will be greater than the decrease in the number of children thus leading from a dependency ratio of 50 per cent in 1995 to one of 67 per cent in 2051.⁽²⁰⁾ In other words, there are now only half as many dependents as people of working age, but this will increase to two-thirds over the next half century. Thus fears are expressed that the nation will suffer from the increased burden. However this ratio paints a somewhat misleading picture, for the following three reasons.

The age based dependency ratio is inaccurate in equating the degree of dependency of all the 'dependent' age cohorts. For example, a seventy year old may own and maintain a dwelling, own and drive a car, do his/her own shopping and cooking, assist in the family business, mind the grandchildren, and volunteer in community activities. Indeed, if the retiree is self funded it is hard to see on whom or for what (s)he is 'dependent', yet that is how (s)he is statistically classified. By contrast, small children rely on others for all their needs, and this reliance fades very slowly over time. It is not accurate to equate the total dependence of a toddler with that of a healthy older person

In modern Australian society it is incorrect to assume that all persons are independent after their fifteenth birthday. In fact, children aged between 15 and 17 years cost their parents more than do younger children — in some cases more than \$400 per week.⁽²¹⁾ Some of these costs can continue beyond the teenage years — in 1994 47 per cent of youth aged between 15 and 24 lived rent free,⁽²²⁾ and in 1996 almost half of those aged 20 - 24 and 12 per cent aged 25 to 34 still lived with parents.⁽²³⁾ Over the last decade only about 45 per cent of the 15-19 age cohort were employed at any time, and of those the majority worked part time.⁽²⁴⁾ Time spent on domestic activities such as cleaning and home maintenance is low up to age 24, suggesting the this age group relies to a degree on older generations for these chores. Similarly, time devoted to 'voluntary work and care' remains low up to age 34,⁽²⁵⁾ indicating that the volunteers on whom the community depends are older persons. On average, between the ages of 15 to 24, Australians spend two thirds as much time on education as on employment related activities.⁽²⁶⁾ So it appears that the youth of Australia often depend on the older generation for various types of support until they

are in their twenties and the age based dependency ratio misleads by assuming full independence is normal at age 15.

The third misleading aspect of the age based dependency ratio is the assumption that everyone between the ages of 15 and 64 is 'economically active', whereas in fact many in this age group are not working due to illness or disability, child care responsibilities, difficulty in finding work or early retirement. In 1995 one fifth of persons of working age were dependent on welfare benefits.⁽²⁷⁾ In 1998 only 52 per cent of persons aged 15-44 were in full time work and the percentage rises to only 58 per cent (ages 45-54) before falling with increasing age.⁽²⁸⁾ In the same year nearly 15 per cent of those aged 0-64 suffered a disability.⁽²⁹⁾ It is thus misleading to classify everyone aged 15-64 as economically active.

THE EMPLOYMENT BASED DEPENDENCY RATIO

Another way of examining dependency ratios is to divide the number who are employed into the number who are not. In 1998 there were 6.4 million Australians in full time employment.⁽³⁰⁾ In a population of nearly 19 millions this means that each worker was supporting two dependents (a dependency ratio of 200 per cent). If the 2.2 million in part time employment are added, the total employed is 8.6 millions, still leaving more dependents than workers (ratio about 150 per cent). These are the crude but actual ratios of 'economically active' Australians in 1998 relative to the numbers who are not employed. These ratios are far 'worse' than even the most gloomy projection of the aged based ratio, yet Australian society and economy does not collapse under the burden. Other, far more sophisticated measurements give lower ratios.⁽³¹⁾ (It should be noted that none of these dependency ratios take account of the huge social and economic contribution of voluntary activity.)

It is plausible to argue that as the population ages the proportion who are economically active will fall but this too does not stand up to scrutiny. McDonald and Kippen⁽³²⁾ have projected the proportion of Australians in the labour force over the next fifty years and find that the proportion changes very little and never becomes less favourable than the present. Other researchers⁽³³⁾ note that the employment/population ratio may be very high during the years up to 2021 and that therefore unemployment may be a problem.

Thus fears that there will be insufficient workers to support Australia in the future appear unfounded, and we should not be concerned about the greying of the population on these grounds.

THE COST OF CHILD DEPENDENCY

The rise in the number of older persons is accompanied by a decrease in the proportion of children, and the decrease can reduce the costs of child dependency. These costs have been studied and figures published, yet the figures do not normally play a part in discussions of the cost of an ageing society.

The costs of rearing small children are largely borne by the parents in sleeplessness, loss of earnings, constant attention and endless patience. These costs are hard to quantify and are often overlooked. Constant adult presence is crucial for at least the first six years of a child's life and this need diminishes gradually over the following ten years. This demand on adult time is hard to quantify though it is a major cause of the fewer hours females spend in employment (see below).

While many costs of child rearing are partly hidden, studies have been made of the expenditure patterns of Australian families with and without children.⁽³⁴⁾ These reveal that, depending on the methodology used, parental income, age of child and number of children, the actual family outgoings are between \$51 and \$465 per week per child (1998 dollars). Some of these costs can continue beyond the teenage years as outlined above.

Until recent decades loss of parental income was not considered an important factor in the costs of child rearing since women were not expected to work after marriage, and if they did work their rates of pay were usually poor. Today, however, women are as well educated as men and have reason to anticipate a career, and it may well be that future studies will reveal that earnings foregone, by increasingly well qualified parents who limit commitment to work in order to care for a child, will prove the greatest expense involved in child rearing. Already in 1988 Beggs and Chapman estimated that, if we assume the lost earnings of a highly educated woman had been invested at seven per cent per annum, she would lose two million dollars over her lifetime.⁽³⁵⁾ Australian women on average spend only about half the number of hours in the workforce at any given age

than do men⁽³⁶⁾ and a major cause of this is the role in child rearing usually taken by women.

Government expenditure per capita is lower for young people than it is for the aged but it is not negligible. For example, in 1995-96 government outlays on education were over 20 billions and accounted for nearly 5 per cent of GDP.⁽³⁷⁾ In the same year 41 per cent of children lived in families receiving Additional Family Payments.⁽³⁸⁾

A recent paper by Sue Richardson calculates that in 1995-6 outlays on children were about 11 per cent of GDP, rising to 18 per cent if foregone mother's earnings were included. She poses the question: 'Children are 25 per cent of the population. Is an investment in their well-being of 21 per cent of household disposable income and 18 per cent of GDP, together with 10 billion hours of parental time, enough?'⁽³⁹⁾

The studies mentioned above on the costs of raising children are swamped by the literature on the cost of the elderly. Many of the costs of childcare are difficult to quantify and most are carried by the parents. Thus most do not appear in government statistics, allowing us often to overlook much of the cost in time, energy and money required rearing a child. An ageing population with fewer children may result in an adult population devoting fewer total resources to caring for dependents, contrary to popular belief.

CHILD AND AGED DEPENDENCY NOT EQUALLY REPORTED.

When a person who has been vigorous and fiercely independent finds that towards the end of life assistance from others is needed, the transformation can be distressing for all concerned. Such transformations make us all acutely aware of frailty or dependence among the aged. On the other hand we accept as natural that the human infant is born helpless and that the helplessness recedes slowly over the years. This fact is so well known that when statistics are assembled it tends to be overlooked, thus making elderly dependence even more prominent, as the following five examples demonstrate.

Figures are published for the number of elderly persons who suffer from incontinence⁽⁴⁰⁾ but not for the percentage of 0-2 years olds who have the same problem and need assistance in coping. We all know that babies wear nappies and need some-

one to change and wash them and that the relevant percentages would be 100. However this drain on the energies of the adult population is not noted. The proportion of elderly people (fewer than 8 per cent) who live in 'cared accommodation where meals (are) provided' is known.⁽⁴¹⁾ Almost unnoticed is the fact that all children live in accommodation where meals are provided, and that this service may continue into teenage years and beyond. Articles with titles such as 'Community services: long term care at home?'⁽⁴²⁾ are written regarding the disabled and the elderly, and we are so accustomed to the fact that all children need 'long term care at home' that we almost overlook this aspect of child dependency. Volumes are published about adults, including the elderly, who require assistance with accommodation, transport, communication, washing, eating and home maintenance.⁽⁴³⁾ However all children need assistance with all these things for at least five years and may receive help with some of them, such as accommodation or transport (Dad, can I have the car tonight?) for as long as a quarter of a century (see above). A publication notes that childcare for the 0 - 4 cohort is frequently fewer than 5 hours per week,⁽⁴⁴⁾ but does not note that these children need the constant presence of an adult for the other 163 hours per week, thus potentially undervaluing the dependence of the young.

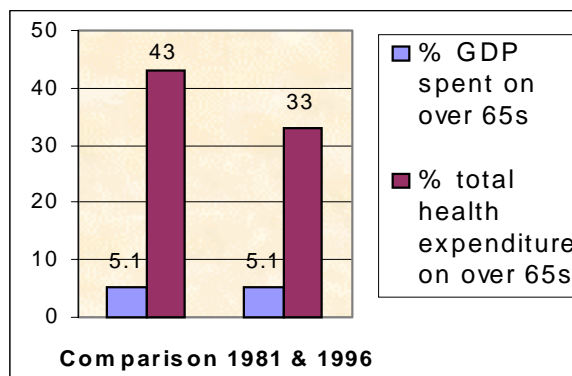
This disparity of reporting of dependency at the beginning and end of our lives may be one of the causes of fear of an ageing society. Warnings about possible increases in the needs of the elderly are frequent, yet a corresponding decrease in the needs of the young is barely noticed.

GOVERNMENT EXPENDITURE

Government social outlays per capita in 1997 were approximately \$5,600 for ages 0-15, falling to \$2,500 for ages 40-49 and rising to \$20,000 for those over 75.⁽⁴⁵⁾ Such figures lead to understandable alarm at the prospect of increasing numbers of elderly, as it appears that governments will be unable to carry the costs. Surprisingly, over the last few years, despite the ageing of the population, the cost burden for Australian governments has not increased as might have been expected.

Between 1981 and 1996 government expenditure on older Australians remained unchanged at 5.1 per cent of GDP despite the relatively rapid ageing of the population. Over the same period, as a proportion of total outlays on health, welfare and social security, expenditure on older Australians declined

from 43 per cent to 33 per cent.⁽⁴⁶⁾ Thus an ageing population has not proved a more expensive one. The explanation for this surprising result lies in the number of factors impinging on the economy and government expenditure, compared to which the effect of an ageing population is relatively small — smaller, for example, than the vagaries of the business cycle. (It is worth noting here that in 1996-97, of the total value of Commonwealth income support payments, only one-third was spent on age pensions.⁽⁴⁷⁾ The word 'pensioner' is often used almost as a synonym for 'older person' but this is not an accurate usage.)



It is probable that retirees in the future will be healthier, wealthier and better educated than in the past and that this too will reduce the burden on governments. Various factors could be relevant such as later retirement age, more retirees continuing to work part time, a higher proportion of self funded retirees and better use of assets to fund retirement, all of which suggest that economic doom as a result of a higher average age cannot be predicted with certainty. Indeed, it has been said '...the output of goods and services is the real driver of a nation's capacity to "afford" its aged. No consensus appears to have emerged in the economics profession concerning the impact of ageing on economic growth.'⁽⁴⁸⁾

WORKERS ARE NEEDED, NOT MONEY

It is sometimes argued that an ageing population needs workers, not money, in order to cope with the needs of increasing numbers of elderly. This fear that there will not be enough workers to cope is immediately plausible but does not stand up to scrutiny.

As noted above, we are keenly aware of the plight of an older person becoming less independent and

we thus tend to over-estimate the amount of assistance required, forgetting the level of assistance we all need at the beginning of our lives. For example, the Home and Community Care program, funded jointly by the Commonwealth and State governments, reports providing assistance of only about four hours per person per month for 'people aged 65 and over with a profound or severe core activity restriction'.⁽⁴⁹⁾ This of course may be in addition to assistance offered by family and neighbours, but it is a negligible demand on adult time relative to the constant attention needed by small children.

For those elderly who become unable to continue to live in their own homes and must move to a hostel or nursing home the labour required would be much higher, particularly in a nursing home. However at age 65 the average man can expect to spend, over the rest of his life, only about seven months in such residences, while a woman of 65 can expect to spend under two years.⁽⁵⁰⁾ Hostels and nursing homes require trained, caring individuals but our average need for such residential care at the end of our lives, and the resultant drain on the energy of carers, is not nearly as long or demanding as our need when we are children.

Thus as the number of children in a society drops and the number of elderly increases, it is probable that the total time the society must spend caring for dependents will drop, and labour may actually be released for productive work.

DWINDLING POPULATION NUMBERS

An older society is associated with slower growth of population size or with declining numbers. If fertility is below replacement level (2.1 children per woman) each generation will be smaller than its predecessor and if fertility remains low the population will eventually disappear, even if this takes several centuries. Since most people are attached to the ethnic and cultural features of their own community they do not welcome the possibility that the community may become extinct. However the current global human population of six billions and more may prove to be a brief blip in history. Humans achieved their first billion only in the nineteenth century and the population growth rate since then has been extraordinary. If numbers in every nation were to fall to one-sixth their present size then this would return the global population to historic norms. Since at expected fertility rates it would take centuries, rather than decades, to reduce numbers by a factor of six there is plenty of

time to introduce family-friendly public policy if fertility rates do not rise during this period.⁽⁵¹⁾

ADVANTAGES OF AN OLDER POPULATION

We are so busy fearing an older population that we rarely stop to consider possible benefits, three of which are outlined here.

Older persons, having raised their families and perhaps having established a reasonable financial base for themselves, often have time to offer for the benefit of family and the community. Such time adds greatly to community well-being, if not to GDP. Time devoted to voluntary work and care is low among the under 35s and is at its height within the age groups over 55. Time devoted to maintaining the home continues rising to at least age 70, suggesting the young tend to rely on the older generation for much cleaning and maintenance.⁽⁵²⁾ (The alternative explanation, that the young are slovenly and the old are slow, is not entirely supported by the statistics.) The value of such unpaid work should not be underestimated. It has been calculated that of the \$36 billions of total welfare service provision in 1997-98, nearly \$25 billion was unpaid.⁽⁵³⁾ Other research puts the 'value of household and community work' in Australia in 1996 at \$155 billion.⁽⁵⁴⁾ Those over 55 who are involved in child care spend more than half as much time in the average day on this activity as do those aged 25 - 34, the peak period in life for this activity,⁽⁵⁵⁾ indicating the importance of the grandparental generation in family life. Indeed, in 1997, grandparents provided 68 per cent of all informal childcare in Australia.⁽⁵⁶⁾ In summary, the over 55's may spend less time in paid employment than their younger compatriots, but that does not necessarily mean they are a burden. Activity is not worthless just because it is unpaid and larger numbers of older persons should increase time given to voluntary activities. (It is probable, too, that these activities could become more 'valuable' in the future as better educated cohorts reach retirement age. Volunteers, as indeed they do now, may offer legal, accounting, computer or other expensive skills freely to family or voluntary organisations).

Studies of elderly dependence usually concentrate on public expenditure, ignoring private transfers, and this results in concern over the costs of an ageing society. A fuller examination which includes private transfers of time and money could paint a very different picture. In Australia older people do

not become net receivers of private transfers of either time or money until over the age of 75.⁽⁵⁷⁾ In other words, assistance within the family on average goes down the generations, not up, until the age of 75. The elderly take their time becoming a burden to their children! Families could well be better off with a slightly higher proportion of elderly and slightly fewer children.

The third potential advantage of an older population arises from the per capita benefits of a population which is no longer growing. Within the family, having fewer children increases parental earning capacity and can enable those parents to reach retirement age with better financial security. In later years their (fewer) children should receive an adequate inheritance, assisting them in turn to achieve a comfortable retirement. Given reasonable levels of prudence, individual financial security should increase through the generations. On the national scale productive effort is not constantly required to build ever more infrastructure to meet the needs of an expanding population, and per capita share of resources is not constantly eroded. With stationary population numbers GDP may not grow as fast but quality of life and GDP per capita may well increase.

SUMMARY AND CONCLUSION

The average age of Australians is gradually increasing and this fact leads to fears that the nation will suffer from the 'burden' of too many elderly people. The fear is superficially reasonable but when the facts are examined it proves largely unfounded. Indeed, it is possible that a society with a higher average age may be better off than one with a larger proportion of young people.

The erroneous fear stems partly from the relative blindness of our society to the costs of rearing children. Despite published figures we take for granted, and largely overlook, the amount of time, effort and resources needed to bring the human infant to effective adulthood and independence, a process which may take a quarter of a century. Research already indicates that raising children may absorb 18 percent of GDP, and a future study of the full costs of child rearing in the twenty-first century, including foregone earnings of a parent who may be highly qualified, is likely to show that we are all far more expensive at the beginning of our lives than we are at the end.

By contrast, our society is acutely aware of the costs of the elderly and we tend to overlook the benefits, partly because those benefits fall largely outside the sphere of conventional economics. Up to age 75 older people are net givers of time and money to family and community but because these transfers do not appear in public accounts they are overlooked and to a degree unknown. A realistic assessment of the value of unpaid work of all kinds and of private support passing down generations may paint a very different picture of the 'cost' of an ageing population.

Calls for action to 'avert the ageing crisis' generally involve measures to increase the size of the Australian population. That population may already be above sustainable size and any increase could present future generations with serious problems. Population increase should not be proposed in order to avert a 'crisis' which is largely an illusion.

References

1. Examples include P. McDonald, 'Contemporary fertility patterns in Australia: first data from the 1996 Census', *People and Place*, vol. 6, no. 1, 1998; M. Ferguson, 'The right mix: toward a population policy for Australia', speech given to the Business Council of Australia's Population Growth and Society Conference on 15 November 1999, published in *People and Place*, vol. 7, no.4, 1999; and *The Age Wave*, a European program on ageing societies broadcast on SBS Television's 'Dateline' on 24 May 2000
2. W. Swan, Australian Labor Party spokesman on family and community affairs, quoted in *The Daily Telegraph*, 18 May 2000, p.10
3. For example K. Betts, 'Does Australia's low fertility matter?', *Journal of the Australian Population Association*, vol. 6, no.2, 1989, pp. 102-121; J. Curnow, 'Declining fertility—welcome wherever it occurs', *People and Place*, vol. 6, no. 2, 1998, pp. 71-74; and F. Castles, 'Ageing population no cause for panic' *Reporter*, Australian National University, Canberra, 2/6/2000
4. B. Gregory, during discussion on 'Ageing and health and family services' at the Conference 'Policy Implications of the Ageing of Australia's Population', held by the Productivity Commission and the Melbourne Institute of Applied Economic and Social Research, Melbourne, 18-19 March 1999. *Proceedings* p. 394
5. All statistics in this paragraph are from *Australian Social Trends 1999*, Catalogue no. 4102.0, Australian Bureau of Statistics, Canberra, 1999, p.6
6. *Women in Australia*, Catalogue no. 4113.0, ABS, Canberra 1993, p. 123
7. *Year Book of the Commonwealth of Australia*, No 40, Commonwealth Bureau of Census and Statistics, Canberra, 1954, p. 140, and *Year Book Australia*

- 1998, Catalogue no. 1301.0, Canberra, 1998, p.601
8. E. Healy, '1996 census update—residential concentrations of Vietnam-born people in Melbourne and Sydney', *People and Place* vol. 5, no. 3, p. 62
 9. *Year Book Australia 1998*, op. cit. p. 583
 10. *Australian Social Trends 2000*, Catalogue no. 4102.0, ABS Canberra, 2000, p. 121
 11. *Women in Australia* op. cit. p. 25
 12. *Year Book Australia 1998*, op. cit. p. 170
 13. All statistics in this paragraph are from *Australian Social Trends 1999*, ABS op. cit., p. 196
 14. J. McCallum, K. Geiselhart, *Australia's New Aged*, Allen and Unwin, 1996, pp. 55-56
 15. *Australian Social Trends 1999*, Catalogue no. 4102.0, Australian Bureau of Statistics (ABS), Canberra, 1999, p.10
 16. J. Richardson, I Robertson, 'Ageing and the cost of health services', Conference *Proceedings* op.cit. p.342
 17. Organisation for Economic Cooperation and Development
 18. Conference *Proceedings*, op. cit. p.399
 19. This view, though widely held, is not universal. For example in 1998 the Australian Institute of Health and Welfare estimated that 22 per cent of health cost increases could be caused by a higher proportion of older people. (Quoted in *Australian Social Trends 1999* op. cit., p.57)
 20. 'Background Paper', Conference *Proceedings* op. cit. p.484
 21. R. Percival, A. Harding, P. McDonald, *Estimates of the costs of children in Australian families, 1993-94*, Department of Family and Community Services, Policy Research Paper no. 3, prepared by The National Centre for Social and Economic Modelling (NATSEM), University of Canberra, 1999, p. 43
 22. *Youth, Australia: a Social Report 1997*, Catalogue no. 4111.0, ABS, Canberra, 1997, p. 25
 23. R. Gittins, 'Knowledge - parents pay a high price', *The Sydney Morning Herald*, February 2, 2000, p. 15
 24. *Year Book Australia 1998*, Catalogue no. 1301.0, ABS, Canberra, 1998, pp. 187-188
 25. *How Australians Use Their Time 1997*, Catalogue no. 4153.0, ABS, Canberra, 1998, p 55
 26. *ibid.*, p.55
 27. B. Birrell, C. Maher, V. Rapson, 'Welfare dependence in Australia' *People and Place*, vol. 5, no. 2, 1997 pp. 72-73
 28. *Older People, Australia: a Social Report 1999*, Catalogue no. 4109.0, ABS, Canberra, 1999, p. 75
 29. *Australia's Welfare 1999 - Services and Assistance*, Australian Institute of Health and Welfare, AIHW Catalogue no. AUS 16, Canberra 1999, (also ABS Catalogue no. 8905.0), p. 219
 30. *Older people 1999*, ABS, op. cit. p. 86
 31. See, for example, C. Young, 'The future population and the future labour force' *People and Place* vol. 2 no. 4, 1994, pp. 15-21; B. Bacon, 'Work, retirement and dependency', *People and Place*, vol. 5, no. 2, 1997, pp. 26-39, and B. Birrell et. al., 1997, op. cit., pp. 68-77
 32. P. McDonald, R. Kippen, 'Ageing: the social and demographic dimensions', Conference *Proceedings*, op. cit. p.59
 33. R. Guest, I. McDonald, 'Population Ageing and Projections of Government Social Outlays in Australia', *The Australian Economic Review*, vol.33, no. 1, March 2000, p. 59
 34. R. Percival et. al., 1999, op. cit.
 35. J. Beggs and B. Chapman, *The Foregone Earnings from Child-Rearing in Australia*, Discussion Paper Number 190, Centre for Economic Policy Research, Australian National University, Canberra, 1988, pp. 40-1, quoted in K. Betts, K. Diemer, P. Hiller, 'Fertility Levels in Australia', *People and Place* vol. 3, no. 4, 1995, p. 24
 36. *How Australians Use Their Time 1997*, ABS, op. cit. pp. 17, 23 and 55
 37. *Australian Social Trends 1998*, Catalogue no. 4102.0, ABS, Canberra, 1998, p. 86
 38. B. Birrell et. al. 1997, op. cit., p. 75
 39. S. Richardson, *Society's Investment in Children*, Paper presented to the 29th Annual Conference of Economists, July 2000, National Institute of Labour Studies, Flinders University of S. Australia, p. 29
 40. *Australia's Welfare 1999*, ABS, op. cit. p. 185
 41. *Older People 1999*, ABS, op. cit. p. 92
 42. J. Healy, 'Community services: long term care at home?' in H. Kendig and J. McCallum (Eds.), *Grey Policy: Australian policies for an ageing society*, Allen and Unwin, Sydney, 1990, pp.127-149
 43. For example, *Disability, Ageing and Carers*, Catalogue no. 4433.0, ABS, Canberra, 1996
 44. *Children, Australia: a Social Report*, Catalogue no. 4119.0, ABS, Canberra, 1999, p32
 45. R. Guest, I. McDonald, 2000, op. cit., p. 53
 46. *Australia's Welfare 1999*, op. cit., pp. 202 and 210
 47. *Year Book Australia 1998*, ABS op. cit., p. 230
 48. G. Banks, 'Introduction', Conference *Proceedings*, op. cit. p. 5
 49. *Australia's Welfare 1999*, op. cit. p. 186
 50. *ibid.* p. 196
 51. Books discussing the sustainability of Australia's population include: T. Flannery, *The Future Eaters*, Reed Books, Australia, 1994; P. Todd, *Stop Thieving from our Children*, P. Todd, 536 Jesmond Road Fig Tree Pocket, Brisbane, 1996; and M. O'Connor, *This Tired Brown Land*, Duffy and Snellgrove, Australia, 1998
 52. *How Australians Use Their Time 1997*, ABS op. cit. p. 55
 53. *Australia's Welfare 1999*, op. cit. p. 9
 54. C. Hamilton, H. Saddler, *The Genuine Progress Indicator*, The Australia Institute, Discussion Paper Number 14, Canberra 1997, p. 50
 55. *How Australians Use Their Time 1997*, ABS op. cit. p. 56
 56. *Older People 1999*, ABS op. cit. p. 114 P. McDonald
 57. P. McDonald, R. Kippen, Conference *Proceedings* op. cit, p. 55