

**Submission to the House of Representatives Standing Committee on Industry,
Science and Innovation**

**From
Council for Humanities, Arts and Social Sciences (CHASS)**

**Address
LPO Box 5086, University of Canberra, Bruce, ACT AUSTRALIA 2617**

**Email and phone contact
Toss Gascoigne [director@chass.org.au]
(02) 6201 2740**

1. Introduction

CHASS is an advocacy body established in 2004 to represent the interests of people working in research, education and practice in the humanities, arts and social sciences. Many of our 126 Members are drawn from the tertiary sector, and include the Academies of the Humanities, and of the Social Sciences in Australia; leading universities; and Deans' groups including the Australasian Council of Deans of Arts, Social Sciences and Humanities.

In response to the inquiry by the House of Representatives Standing Committee on Industry, Science and Innovation we would wish to make the following points:

- There is strong international demand for highly trained, highly skilled workers. People working in growth areas in knowledge-driven economies operate in a global marketplace. This demand is not confined to graduates in science and mathematics, but extends to other disciplines as well.
- Within Australia, domestic demand is coming from Government, from the university sector, and from industry. The extent of this demand over the next two decades is uncertain: CHASS has recommended a national analysis of industry needs.
- University demand is being driven by the need to replace an aging workforce (the average age of university staff is higher than any other trade or profession except farmers: in 2006 25% of university lecturers and tutors were aged over 55 years, compared to less than 15% of all other professions). Between one fifth and one third of academic staff at Australian universities are expected to retire in the next decade.
- New university staff will be recruited from PhD graduates, but the number of domestic students undertaking PhDs is declining.
- The value of the PhD stipend has fallen. In 1992 the scholarship was \$14,260, about 47% of average earnings of \$30,534. In 2007 the scholarship was \$19,616, just 35% of average earnings of \$55,790. It is now below the Henderson Poverty Line (see graph below).
- The salaries paid to researchers in Australia are below the levels applying in our international competitors in the USA, Canada and Europe. The 'brain drain' effect does not only apply to science and technology but to the humanities, arts and social sciences as well. Highly attractive salary-plus-

research-support packages and the chance to work in modern well-equipped facilities regularly lure top Australian researchers overseas.

- The challenge universities face in training, recruiting and retaining high quality research graduates and staff would diminish if a new form of research – integrative research – were introduced. Such work focuses on solving problems, typically policy issues in government. It is strategically-driven, problem-oriented and cross-disciplinary, and would complement Australia's well-developed system for supporting discovery research. The current administrative arrangements, reward structures and funding systems tend to discourage this type of research. The argument for integrative research is set out in the attached paper *Rigour and relevance: extending the role of the social sciences and humanities in public policy research*.

2. Five recommendations on training higher degree students

Early this year CHASS initiated a conversation on the value of a PhD in the humanities, arts and social sciences. We wanted to explore how the PhD might be modernised in terms of the experience it offers and the value to the community of the qualification.

The conversation developed into a workshop involving all the leading players in the PhD in Australia. Seventy deans, heads of departments and representatives of funding agencies, advocacy bodies and government attended an invitation-only workshop at the University of NSW in March 2008. The workshop was supported by all the university groupings in Australia: Universities Australia; the Group of 8; the Innovative Research Universities; and the Australian Technology Network.

The workshop was highly constructive, strongly focussed on solutions and very much of one mind on all the major issues. Participants identified a number of areas where the value of the PhD could be improved. Some will require consideration by Government; and others (not listed here, but available on request) are matters that the universities will tackle in the first instance. Many of the issues are common to all disciplines and not confined to the humanities, arts and social sciences.

Participants identified five areas as appropriate for action by Government.

2.1 Increase the value of the stipend

The PhD scholarship was worth \$14,260 in 1992. It has increased in line with the CPI to its current value of \$20,007. Economic pressure makes the scholarship an unattractive proposition for many students. Domestic enrolments are declining and 55% of all students report having 'some involvement' in outside work, presumably as a second source of income to enable them to live.

Many students report putting their own money into their research projects (on average \$2,000 pa)¹. For projects in the art and design sector, the sum can be much greater.

An immediate action for Government to consider is to increase the value of the stipend to that applying to the APA (Industry) award, \$26,140.

2.2. Review the high cost-low cost funding differential

Universities receive some operating funds from Government for the Research Higher Degree students they train. This compensation is at two levels (2.35:1.0) according

to the research field: most science-technology-engineering-medicine (STEM) disciplines have been nominated as high cost and most humanities-arts-social sciences (HASS) disciplines as low cost. This allocation assumes that STEM students are 2.35 times more expensive to train, presumably because they require access to more expensive equipment, an assumption which needs to be reviewed in light of current discipline costs. The Research Training Scheme (RTS) funds basic human and physical infrastructure, but not the costs of the research project (consumables, specialist equipment, travel, etc): these are almost always met from other research funds.

In some circumstances STEM students do require access to more expensive equipment, but HASS students may also require access to similarly expensive equipment and specialised workshops (eg in art and design).

More importantly, HASS students tend to work on individual projects that are separate from their supervisor's research and must be mentored individually, whereas STEM students often work on group projects and can share experiences, facilities and even supervision time, as well as being mentored by post-doctoral colleagues. They may require less per capita supervision time than HASS students.

2.3. Term of PhD

The average time to submission for a full-time PhD student in HASS is 4.48 years, about 2.5 months longer than for other disciplinesⁱⁱ. The current funded period for a PhD scholarship is three years (with a possible extension of up to 6 months). CHASS recommends that the funded period be extended to 3.5 years, with a further 6 months extension possible on academic grounds. This would align the period of the scholarship with the period for which the university is remunerated.

2.4. Analysis of industry needs and graduate destinations

How many PhDs are required to fill demand from industry, government and academic positions? What skills do these potential employers want? Is Australia producing enough PhD graduates with the right skills?

New demand for PhD graduates is being created as university staff members reach retirement age, with about 1/5 to 1/3 of current staff expected to retire over the next decade. The average age of university staff is higher than any other trade or profession, except farmersⁱⁱⁱ.

Additional demand for highly skilled staff is anticipated from the Commonwealth Public Service and a growing diversity of other employers in the knowledge-intensive innovation economy. International demand for PhD graduates is also strong: Australia competes in an international market where highly skilled people are actively targeted for attractive well-paid positions. A recent survey of Go8 HASS graduates 5-7 years after completion shows that about 40% were working outside the universities^{iv}.

This additional demand is taking place at a time when the number of domestic enrolments in the PhD is going down.

The skills shortage has been recognised in the natural sciences, but to a much lesser extent in the HASS. Studies of future workforce growth and decline show that the greatest growth expected is in the professional-managerial sector, which is where significant numbers of HASS advanced degree holders are found.

There is a need to collect better data on the quantum and diversity of demand, so that Australia can predict and respond to the needs of the future. Any failure to properly fill vacancies in the tertiary sector will have a compound effect, as Australia will not have the capacity to train the next generation of PhDs.

2.5. International exposure

Australia faces a dual challenge: domestic enrolments in PhDs are falling, and the strong demand for highly qualified workers in knowledge industries across the world.

We acknowledge and welcome steps recently taken by the Minister for Innovation, Industry, Science and Research to 'enhance international engagement' in research. In addition to these steps, consideration might be given to offer more scholarships to international candidates; take administrative steps to encourage them to study in Australia; make it easier for them to afford education for their dependent children and for their spouses to work; to remain in Australia while their theses are being examined; and to remain in Australia to become productive members of our knowledge workforce after graduation if appropriate. The multiplier effects for the Australian economy are very significant.

Australia should have a parallel policy to encourage mobility for our domestic students, to encourage them to spend time in other countries during the course of their PhD studies. Funding for such activity would require the scaling up of existing federal funding programs, which could be supplemented by individual universities. Some Australian universities recognise the value of this international experience, by making funding available eg to enable students to attend conferences and to undertake international fieldwork. International experience is integral to students achieving their full research potential in many disciplines.

3. The declining value of the PhD scholarship

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

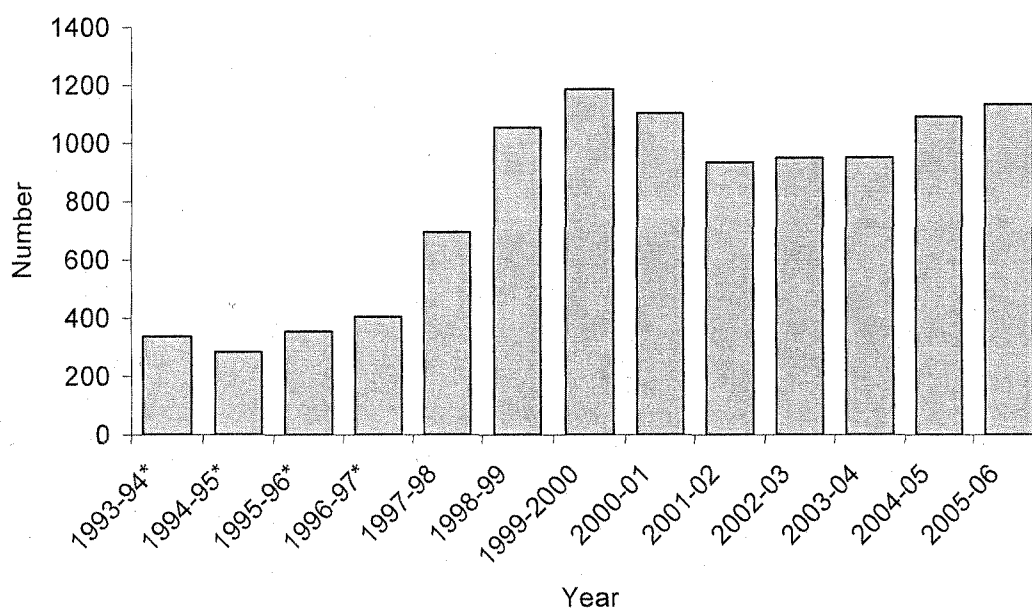
Sources

- Poverty Lines: Australia, December Quarter 2007.
- Data on Commonwealth funded postgraduate stipend rates compiled by the Council of Australian Postgraduate Associations (CAPA) based on information from Graduate Careers Australia and the Department of Education, Employment and Workplace Relations (DEEWR).
- Data on Average Weekly Earnings compiled by The Council for Humanities, Arts and Social Sciences (CHASS) based on ABS Average Weekly Earnings series (seasonally adjusted)

4. Australian researchers move overseas – permanently

Australia: Permanent and Long Term Departures of Academics, 1993-94 to 2005-06

Source: DIAC Movements database



ⁱ Professor Terry Evans, Deakin University, unpublished data from ARC Linkage project which surveyed all doctoral candidates in Australia

ⁱⁱ Western & Lawson – derived from Report to DEST on HEIP Project (J5001): *PhD Graduates 5 to 7 Years Out: Employment Outcomes, Job Attributes and the Quality of Research Training*

ⁱⁱⁱ Graeme Hugo, University of Adelaide, *Demographics – the need for renewal*, 2008

^{iv} Western & Lawson op. cit.

Attachment #1
(Sub 47)

THE DEMOGRAPHIC OUTLOOK FOR AUSTRALIAN UNIVERSITIES' ACADEMIC STAFF

by

Graeme Hugo

University Professorial Research Fellow,

Professor of Geography

and Director of the National Centre for

Social Applications of GIS, The University of Adelaide

Email: graeme.hugo@adelaide.edu.au

URL: <http://www.arts.adelaide.edu.au/socialsciences/people/ges/ghugo.html>

<http://www.gisca.adelaide.edu.au/gisca/flash.html>

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Future of the PhD in the Humanities, Arts and Social Sciences, University of NSW, Sydney

7 March 2008

INTRODUCTION

In 1962 Australia's leading demographer of the time W.D. Borrie wrote:

'simple statistics are fundamental to an understanding of the present and immediate future problems of Australian universities ...'

He pointed to the approaching tidal wave of baby boomers about to enter universities on the one hand and the meagre numbers of graduates of the last decade who were available to provide the tertiary staff required on the other. The argument here is that over the next decade or so, Australian universities face a staffing challenge of similar dimensions to that of the time when Borrie wrote. However, this challenge is not so much one created by the baby boomers increasing the number of students so much as large scale retirement of those baby boomers who became university staff in the late 1960s and 1970s. Moreover, whereas the pressure of the 1960s and 1970s was partly relieved by extraordinary efforts to recruit teaching staff from foreign nations, especially the United Kingdom, the contemporary global labour market in academics presents a quite different context.

This paper first outlines the age structure of Australia's university academic employees, which is a significantly older one than that of the total population. It then and finally discusses some implications of the changing demography of the academic workforce.

SOME DATA CONSIDERATIONS

There are two main sources of data on the Australian academic workforce. Each university maintains detailed data on its academic and general workforces and reports regularly on this to the Department of Education, Science and Training (DEST). These data are maintained for predominantly administrative purposes and often are not maintained in a way which is amenable to demographic analysis. Their detail on the tenure, rank, length of service, fraction of time, etc. permit detailed analyses of trends and emerging issues and problems but there are difficulties in deriving a definitive national overview from these data. It is hoped that over time this will be possible.

The second source of information and the one which is employed here is that collected in the quinquennial national censuses of population and housing. The Census (ABS 2006) collects data on industry and occupation of all persons in the workforce. In this paper, people employed in the Higher Education Sector are examined and their occupation characteristics are used to identify the academic part of that workforce. In this study we distinguish between two types of academics – those involved in teaching and non teaching academics (who are predominantly researchers since administrators are given separate occupational categories).

The census data are useful because they are national in their coverage and consistent in the definitions used from census to census. Moreover, the Australian census is one of the most accurate in the world and also one of the most comprehensive with a 1.8 percent undercount being estimated from the 2001 census (ABS 2003). However it does not have the nuances of detail such as tenure, fraction of time, level, etc., that is

available in individual university data. Nevertheless, they give a realistic indication of the main demographic trends in the Australian academic workforce.

THE CHANGING SIZE OF THE AUSTRALIAN ACADEMIC WORKFORCE

Measuring changes in the academic workforce over time is made difficult by inconsistencies in the data collection but also different practices in the appointment conditions and time commitment of staff in universities. Perhaps the most consistent data are those collected from universities by DEST and although the data presented below take no account of the balance between part and full time employees, Table 1 indicates the growth which occurred in the total academic workforce of Australian universities according to the DEST data since 1991. This indicates that over the 1991-2006 period, the academic staff of Australian universities increased by 18.5 percent although the increase among contract staff (29.4 percent) was significantly higher than among tenured staff (12.1 percent). It will be noted however, that the increase in staff was considerably faster in the early part of the period.

Table 1: Number of Academic Staff in Australian Universities, 1991-2006
Source: DEST unpublished data

Year	Tenured		Contracted		Total	
	No.	Annual Rate of Change	No.	Annual Rate of Change	No.	Annual Rate of Change
1991	18,852		10,982		29,834	
1996	19,320	0.49	14,112	5.14	33,432	2.30
2001	20,271	0.97	13,209	-1.31	33,480	0.03
2006	21,138	0.84	14,210	1.47	35,348	1.09

Table 2: Australia: Number of University Academic and Professional Staff, 1976-2006
Source: ABS Australian Censuses of Population and Housing

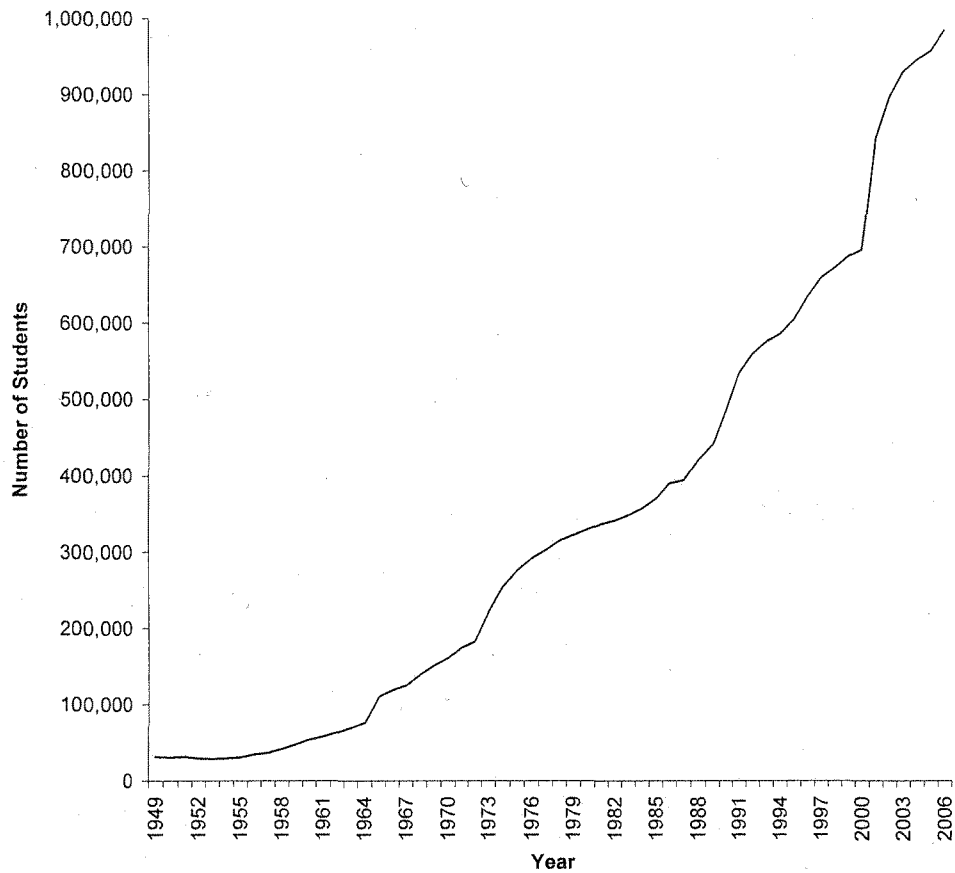
Year	Teaching Academics		Total Professional Staff	
	No.	Annual % Growth Rate	No.	Annual % Growth Rate
1976	13,935	-	na	-
1986	22,707	5.0	na	-
1991	29,008	5.0	na	-
1996	32,210	2.1	44,871	-
2001	32,217	0.0	52,098	3.0
2006	35,980	2.2		

Turning to Australian population census data, Table 2 indicates the changes which have occurred in the numbers of university staff. There are problems over time in obtaining comparable data. However, the patterns depicted are interesting. There

was very rapid growth in the 1960s and early 1970s and this was continued in the 1970s and 1980s. Accordingly, Table 2 shows that Australian university teaching staff increased from 13,935 in 1976 to 22,707 a decade later.

Figure 1: Australia: Higher Education Students, 1949 to 2006

Source: DEST *Students, Selected Higher Education Statistics*, various issues



- (a) Figures for 1949 to 1964 are for universities only and are based on Australian Bureau of Statistics (ABS) Universities Bulletins.
- (b) Figures for 1965 to 1989 include universities and Colleges of Advanced Education (CAEs) and are based on the statistics collected by Commonwealth Bureau of Census and Statistics (CBCS), Commonwealth Tertiary Education Commission (CTEC), and Department of Employment, Education and Training (DEET).
- (c) Data on CAEs for 1965 to 1973 are for the first time included in this bulletin based on the major findings of a Department of Employment, Education, Training and Youth Affairs (DEETYA) commissioned project.
- (d) Includes government Teachers Colleges from 1973 onwards.
- (e) Includes non-government Teachers Colleges from 1974 onwards.
- (f) Figures for years from 1985 to 1993 progressively include State-funded basic nursing students who would previously have been trained in hospitals.
- (g) In 2001 the scope used to define the data changed to include students enrolled at anytime within the 12-month period 1 September to 31 August. Previously, published data referred to students enrolled at 31 March of the stated year.

This is consistent with the rapid growth in student numbers evident in Figure 1. The growth in both students and teaching staff increased in the 1986-91 intercensal period but while the number of students continued to grow at apace that of academic staff

slowed down considerably. This has been a period of substantial change in the way the university system has operated. It has seen the introduction of a managerial model of administering the universities, which has seen an expansion of the administrative staff and an emphasis on increasing the number of students taught per staff member. The former trend is evident in Table 2, which indicates that the total professional staff of universities increased considerably faster than the teaching academics. Of course the total professional staff includes full time researchers but it does point to the expansion of the administrative staff of universities.

There is little doubt from both sets of data examined here that there was a levelling off in the numbers of academic staff in Australian universities, especially those involved in teaching in the late 1990s. Table 2 shows that after two decades of growth, the number of university teachers failed to increase in the 1996-2001 intercensal period. On the other hand, the number of doctors increased by 8.4 percent, lawyers by 22.9 percent, schoolteachers by 8.7 percent. Growth resumed in the 2001-06 period. Table 3 indicates that using DEST data on the numbers of students and staff there was an increase of 46.5 percent in the student staff ratio between 1993 and 2003, but a levelling off since then.

Table 3: Ratio of Students to Academic Staff, 1993-2005

Source: DEST data from Australian Vice Chancellors' Committee
<http://www.avcc.edu.au/documents/publications/stats/Staff.pdf>

Year	Students per Academic Staff
1993	14.2
1994	14.2
1995	14.6
1996	15.6
1997	17.2
1998	17.9
1999	18.3
2000	18.5
2001	19.1
2002	20.2
2003	20.8
2004	20.6
2005	20.3

In summary, there was a period of very rapid increase in the number of academic staff in Australian universities, especially in the late 1960s and 1970s and early 1980s. The staff recruited were overwhelmingly young and in the early stages of their careers. However, the last 15 years has seen a considerable slow down not only in the growth but also in recruitment of academic staff. To some extent the current level of zero net growth is masking the effect of substantial redundancy programs which have seen the replacement of older staff with younger staff but the reality has been that the increase of teaching workloads by a third in the 1996-2003 was the main factor which explains the lack of net growth in the academic workforce.

AGEING OF THE ACADEMIC WORKFORCE

Ageing of the Australian population has become an issue of substantial national significance especially with the Federal Treasurer's Intergenerational Report (Costello 2002; 2004) drawing attention to the closing gap in the ratio of working age to retiree populations. One dimension of this is the ageing of the national workforce and Figure 2 shows the massive changes, which have occurred in the age and gender structure of the Australian workforce over the last four decades. It has not only grown by 112.3 percent between 1961 and 2006 but in 1961 only 25.1 percent of the workforce were women whereas in 2006 they made up 46.2 percent.

At the end of World War II, Australia's workforce was a relatively mature one with a median age of 37.1, but 60.3 percent were aged below 40 years of age. The postwar baby boom and high levels of immigration saw the median age of the workforce decline to 34.1 in 1981 but it then began to increase and rose to 40.0 in 2006 and it will continue to increase.

Turning to the academic workforce, the rapid expansion of universities in the 1960s and 1970s involved a significant recruitment of young academics aged in their twenties and thirties, many of them recruited from overseas, especially the United Kingdom. Accordingly, the Australian academic workforce in the 1970s was an extremely young one as is evident in Figure 3, which shows the age structure of Australian university lecturers and tutors at the 1976 population census.

Figure 2: Australia: Age-Sex Structure of the Workforce 1971 and 2006
Source: ABS 1971 and 2006 Censuses

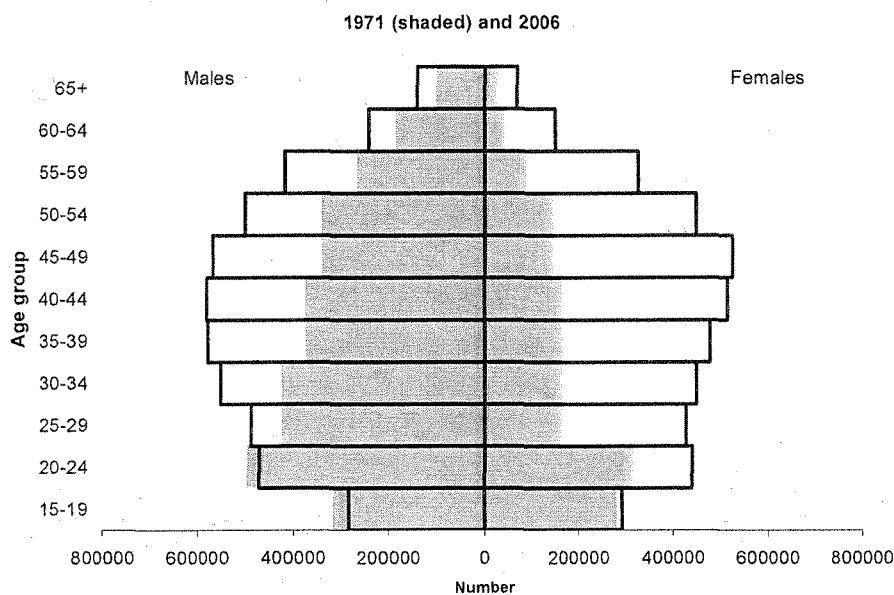


Figure 3: Australia: Age-Sex Structure of University Lecturers and Tutors, 1976

Source: ABS 1976 Census

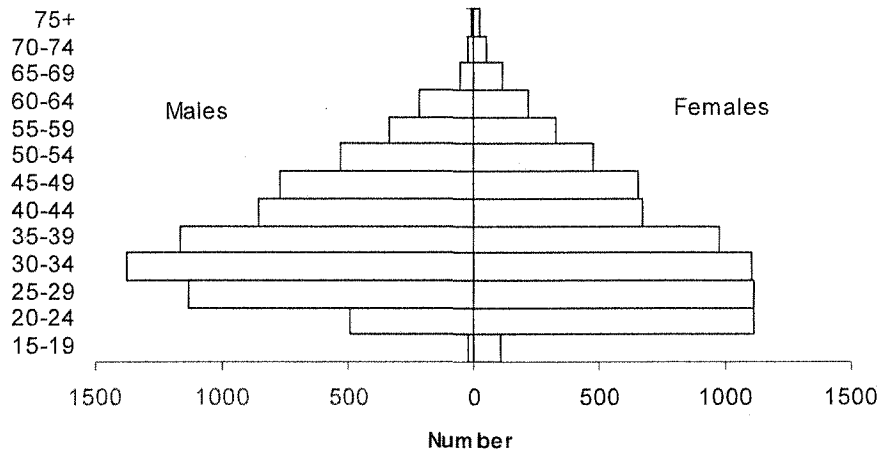
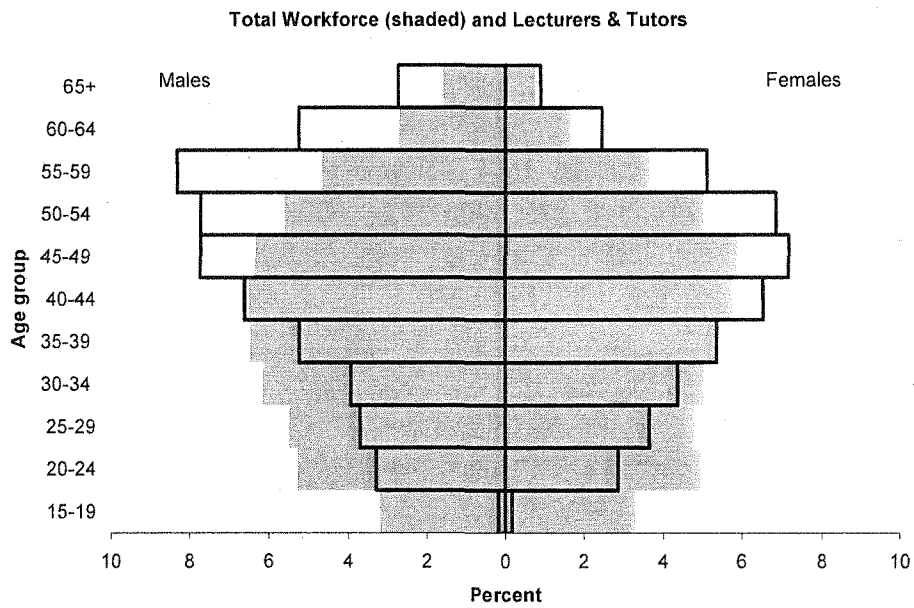
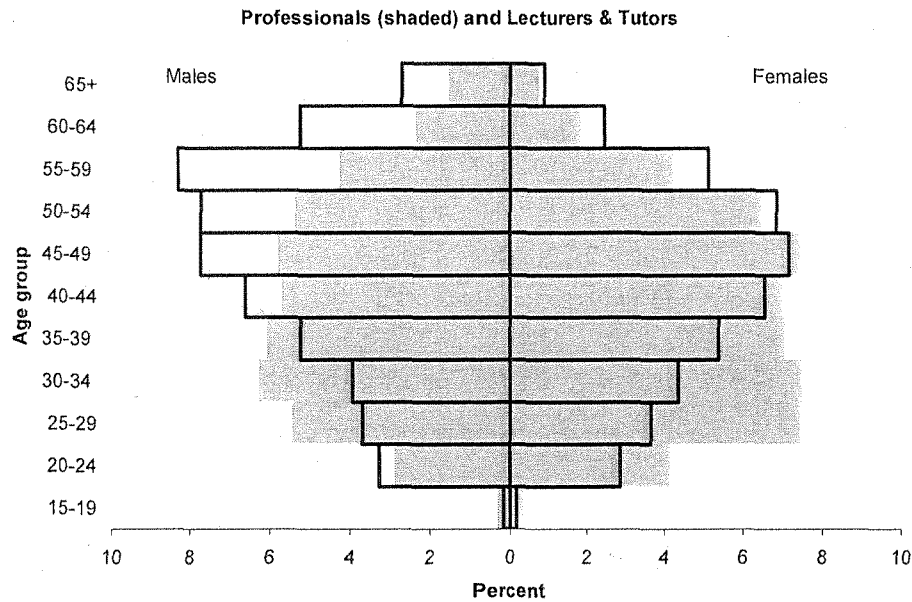


Figure 4: Age-Sex Structures of Academic Staff and the Australian Workforce and Academic Staff and Professionals, 2006

Source: ABS 2001 Census





The rapid influx of young academics into the Australian university system in the 1960s and 1970s followed by a period of slow growth in the number of academic jobs due to demographic and management shifts has produced a high degree of 'age heaping'³ in the Australian university teacher workforce. Accordingly, Figure 4 shows that the Australian university teaching workforce is concentrated in the older age groups more than not only the total workforce but also the total professional workforce.

Despite an improvement over earlier years, it is still evident that women are still under-represented in the workforce. The differences are apparent in Table 4, which shows that only a third of lecturers and tutors were aged under 40 in 2001 compared to half of the total workforce and half of professionals. Even 40 percent of doctors were aged under 40 years and doctors are the next oldest group to university lecturers among professionals.

It will be noted in Table 4, that among Information Technology professionals, more than two thirds are aged under 40 years. The table also indicates that the total academic workforce is significantly younger than the lecturer/tutor workforce reflecting the growth of the fulltime and other research staff in Australian universities. There are also some substantial gender differences as Table 5 indicates.

Among the older lecturing staff, there are four men for every woman aged over 55. The improvement in gender balance, with decreasing age, is evident in the fact that among lecturers aged less than forty, the sex ratio⁴ was 110.8.

The gender ratios are lower among the total academic workforce. The improving gender balance over time is evident in all professions so that there are more female professionals aged less than 40 than males. Even among doctors and IT professionals, where the sex ratios are most imbalanced, there has been an improvement over time.

Table 4: Australia: Percentage of the Workforce by Age Groups, 2006

Source: ABS 2006 Census

	University Lecturers and Tutors	Total Workforce	Professionals	Doctors	Computing Professionals
% Aged 55+ years	24.7	15.0	14.9	22.4	5.8
% Aged 45+ years	54.2	37.8	40.0	48.6	23.8
% Less than 40 years	32.7	49.9	47.4	37.0	62.2

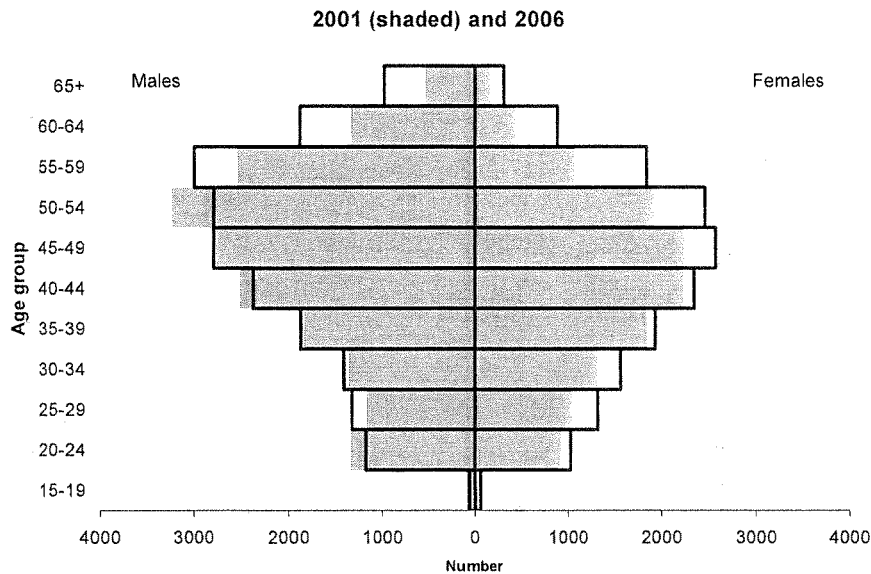
Table 5: Australia: Sex Ratio of the Workforce by Age Groups, 2006

Source: ABS 2006 Census

	University Lecturers and Tutors	Total Workforce	Professionals	Doctors	Computing Professionals
55 years and over	192.1	146.7	119.5	459.0	543.7
45 years and over	140.9	122.8	93.1	277.8	414.4
Under 40 years	98.7	113.2	79.1	119.2	414.4

Figure 5: Australia: Age-Sex Structure of Lecturers and Tutors, 2001 and 2006

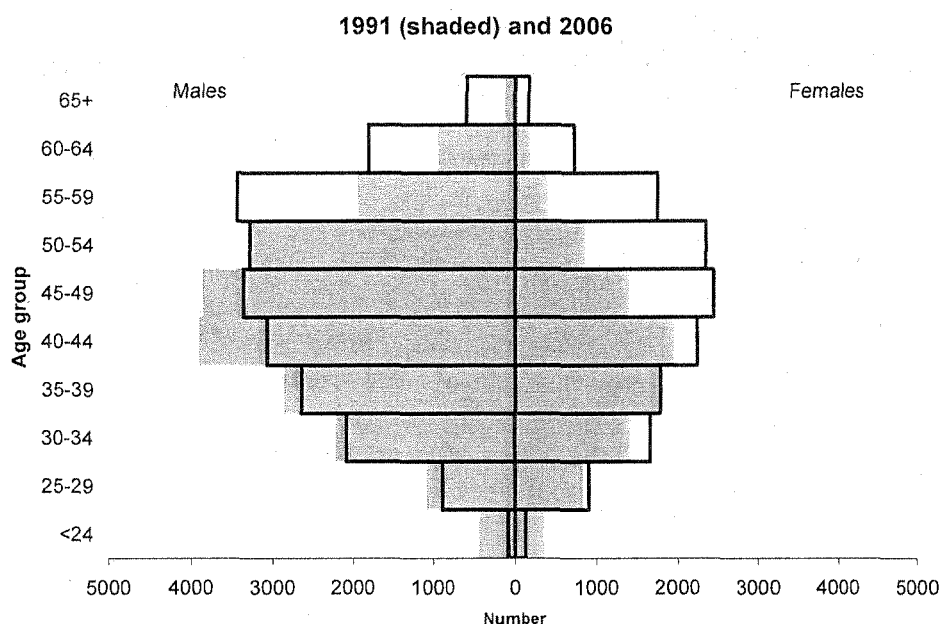
Source: ABS 2001 and 2006 Censuses



The last decade has seen an unprecedented effort by universities to offer redundancy packages to older academic staff in a push to increase student/staff ratios, reduce the number of higher level academic staff and to reduce the overall costs of the academic teaching workforce. Nevertheless, between the 2001 and 2006 censuses, there was an increase in the ageing of the academic workforce. This is apparent in Figure 5 where the 2001 and 2006 age pyramids of lecturers and tutors have been overlain. It will be noted that there was a higher proportion aged 25-29 in 2006 than in 2001 reflecting some increased recruitment as well as gains of women in most ages. However, it will also be noted that major increase was in the proportion aged over 50 as the ageing of the academic workforce continued.

The same patterns of ageing in the academic workforce reflected in the census data examined above are evident in DEST data. Hence, Figure 6 overlays the age-sex structure of the Australian academic workforce in 1991 with that of 2006. It is clear that there has been an ageing of the academic workforce. Over the 12 years there was an increase of over 80 percent in the academic workforce aged over 50 while the numbers aged under 50

Figure 6: Australia; Academic Staff, Age Sex Structure, 1991 and 2006
 Source: DEST, unpublished data



remained virtually static¹. The percentage of the workforce aged over 50 increased from 26 percent in 1991 to 39.8 percent in 2006. Figure 7 and Figure 8 compare the patterns for the tenured and contract staff. It is apparent that the tenured staff is somewhat older than the contract staff although both have aged over the period. The percentage of the tenured staff aged over 50 has increased from 34.9 in 1991 to 48.4 in 2003 while among contract staff the increase was from 10.8 to 26.2 percent.

¹ Increasing from 22,078 to 22,110.

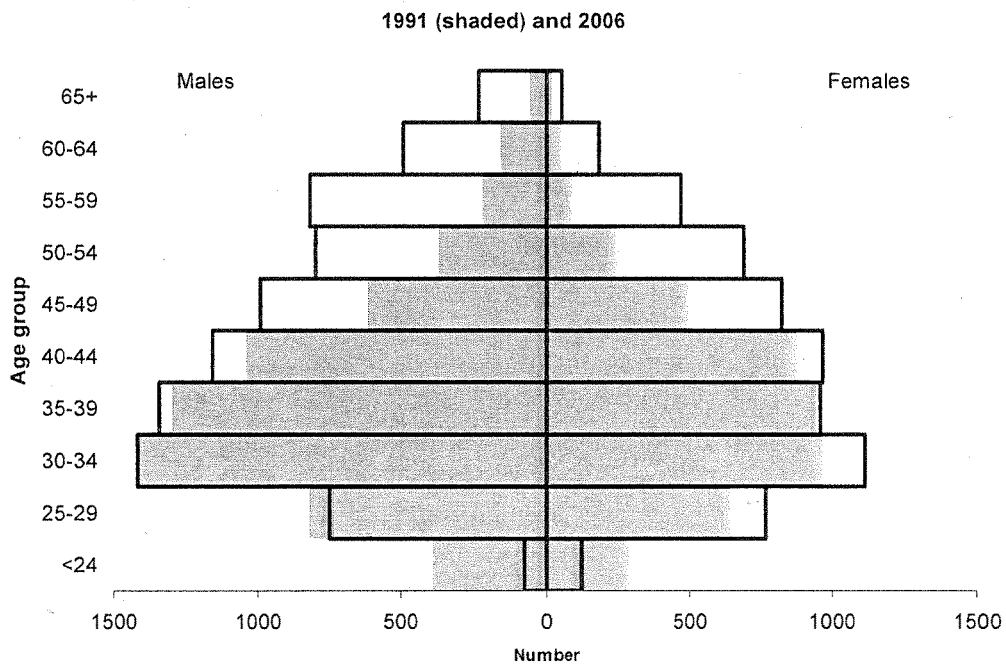
Figure 7: Australia: Academic Tenured Staff, Age Sex Structure, 1991 and 2006

Source: DEST, unpublished data



Figure 8: Australia: Academic Contract Staff, Age Sex Structure, 1991 and 2006

Source: DEST, unpublished data



In summary there are four defining elements of the contemporary Australian academic workforce – slow growth, age heaping, a mature age structure and an imbalanced gender ratio. It is growing at a substantially slower rate than other professions. Age heaping can be a problem in any workforce since it produces problems of succession and continuity in a workforce. The academic workforce in Australia has a more pronounced heaping than almost any major group in the national workforce. Clearly too, the academic workforce is older than most other groups and this, in itself, means that it is likely to experience a period of substantial loss of workers through retirement over the next decade. Thirdly, despite improvements in the balance between genders, the Australian academic workforce is still one of the least balanced between males and females

DISCUSSION

Australian universities face many challenges over the next decade, but that presented by academic staffing must rank as one of the greatest. The fact that universities are likely to lose between a fifth and a third of their staff in the next decade or so means that there are major opportunities for restructuring and changing the balance between courses, subjects and teaching and research programs without resorting to large numbers of redundancies. On the other hand, there are real challenges in being able to attract high quality staff members to replace those being lost. It would seem from the age pyramids presented here that there has been a 'lost generation' of potential university academics, those currently aged in their 20s and 30s. A comparison of the age pyramids shows that Australian academics aged in their 40s and 50s outnumber those in their 20s and 30s by 31.1 percent.

There is no extant research as to why this younger generation of academics have been lost and the extent to which it has been due to factors such as a decline of attractiveness of academic positions, salary, conditions, etc. and the extent to which alternative sectors have been more attractive. Moreover there is an international dimension. In the last decade there has been an unprecedented internationalisation of the academic labour market. International competition for highly skilled professionals including academics has never been more competitive. Australia must compete not only for potential academic staff from other countries but also for Australian graduates who are increasingly examining options in foreign universities. It has never been easier for highly skilled Australians to move to positions in foreign countries, especially other OECD nations. Countries have modified immigration regulations to facilitate the recruiting of the highly skilled, researchers, scientists and technologists. The academic labour market is truly internationalised. Elsewhere we have examined the movement of academics to and from Australia (Hugo 2005).

While we have concentrated here on the demography of university academic staff it is important to point out that there is no demographic reason to anticipate a decline in the numbers of students in universities over the next two decades. Putting aside important issues of increasing participation in tertiary education, increasing mature age entry and the fact that Australia takes more foreign fee paying students pro rata local university students than any other OECD nation, there will be no major decline

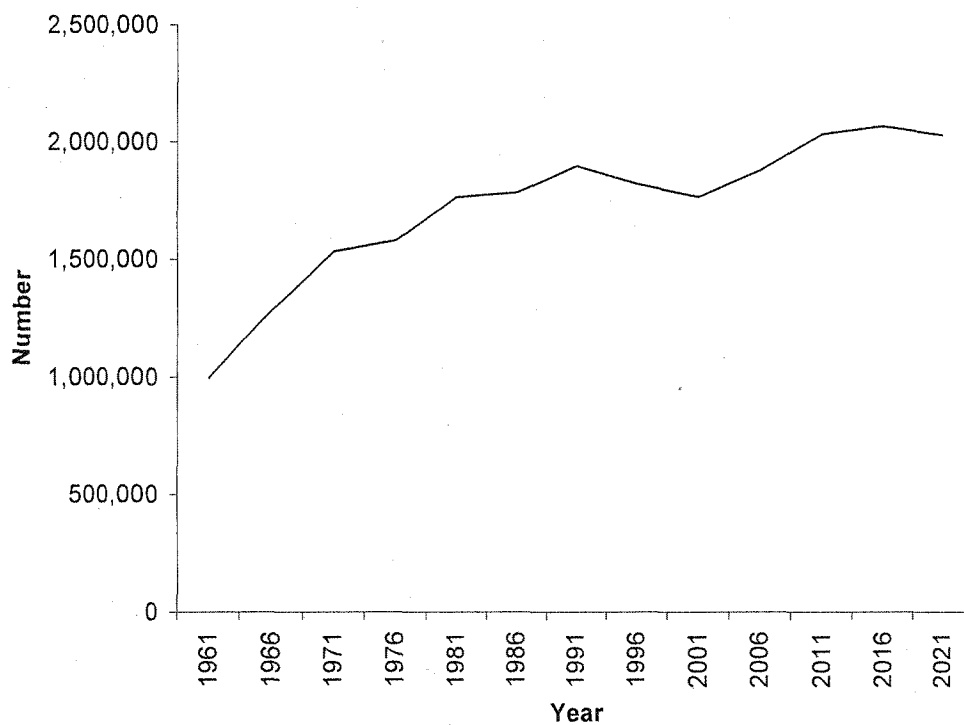
in Australians in the 18-24 ages over the next two decades. Indeed, Figure 9 indicates that these prime university age groups has increased sharply between 2001 and 2006 and will continue to grow until 2016. This is the impact of the children of the younger postwar baby boom cohort entering these age groups.

In the last decade redundancy programs have been a major element in the human resource policies of several Australian universities. However, it could be argued that the policies of the next two decades will need to concentrate on three other 'R's' – Retention, Recruitment and Return.

A clear implication of the trends examined here is that Australian universities need to look at ways to retain high quality staff. This applies cross the board but one group undoubtedly are productive older staff in their 50s. Most universities know little about the retirement intentions of this group. It is clearly in the interest of universities to extend the age at retirement of many of its staff, in particular, those who continue to achieve at a high level.

Figure 9: Australia: Population Aged 18-24, Actual 1961 to 2006 and Projected 2011 to 2021

Source: ABS Censuses, 1961 to 2006 and ABS Projections, Series B



In universities as in many areas there is often a prevailing view that younger staff purely by virtue of age are more productive, innovative and more up to date with current developments in their disciplines. However, it is clear that while it is highly desirable in any academic group to have a balance between staff with respect to age it could prove just as problematical to have age heaping in younger groups as in older

age groups. This is true in both the teaching and research endeavors of universities. One feature of Australian universities in recent years has been the substantial increase in average teaching loads. It may well be that this has been possible because of the highly experienced teaching workforce in Australian universities over this period. It could also be that replacing the teaching contribution of a retiree with decades of experience with a recent graduate may present difficulties.

In short, a great deal of care needs to be taken with respect to developing policies in relation to the retirement of older staff. In Australia there has, in the past, been a focus on moving older staff out of the mainstream of universities although mentoring and emeritus positions are certainly increasing. Universities should be identifying their older staff who are high performers in research and/or teaching and ensuring that they do not leave the workforce prematurely. The Australian government has recently moved to encourage older workers to stay in the workforce and universities need to move in innovative ways in areas of retention of high quality staff of all ages and in phasing of retirement.

Gender is another important issue in consideration of Australia's future academic staff. Although there have been improvements in gender ratios in Australian universities women are still under-represented, especially at higher levels in the university. This issue has been investigated in some detail in Australian universities and the disadvantages facing women in academic jobs are well known. (Probert 1999a, b, c and d). Nevertheless, despite special initiatives in many universities, inequalities remain. The present demographic analysis would indicate that while the gender equity argument alone should be sufficient for universities to develop programs to ensure that women get equal access as men to all aspects of academic life, it is clear that impending labour market deficits make it even more imperative that universities involve women to a much greater extent than in the past purely from the perspective of the need to recruit sufficient high quality academics to replace the expected loss over the next decade.

Retention of staff will be more difficult over the next decade or so than it has been in the past. With the tightening of the labour market, high quality early career academics will not only consider academic positions in the various Australian universities when weighing up their working futures but positions outside the academic sector and in overseas academic institutions where salaries, research funds and work conditions are often better. The second 'R' refers to *recruitment*. A main strategy whereby Australian universities overcame academic staff shortfalls created by the rapid increase in student numbers in the 1960s and 1970s was to seek and recruit staff from overseas, especially the United Kingdom. Elsewhere (Hugo 2005), the current patterns of movement of academics to and from Australia are analysed.

This indicates that while Australia experiences a net immigration of academics there are some issues of concern, which would suggest that Australia would not be able to compete as effectively for foreign academics as it did in the previous period of shortage of academics. Some of the main issues in this respect are as follows...

- An analysis of incoming and outgoing academics over the 1993-04 and 2002-03 period showed that while there were significant numbers of academic permanent migrants coming to Australia from 'traditional' nations such as the UK and the USA, there was also significant

outmovement to these destinations so there was only a small net gain. On the other hand, the net gains from Asian nations such as India and China have been substantial.

- There are many more academics coming to Australia under the new temporary migration categories (Hugo 1999) than are arriving as permanent settlers indicating that much of the movement is to short term non tenured positions.
- Australia may be less able to compete for foreign academics in traditional European and North American nations than it was in the 1960s and 1970s because of salary levels, changing value of the \$Australia, employment conditions and availability of research resources.
- While there is no doubt there is a net gain of academics to Australia through immigration, this is not just a numbers exercise. While we currently lack empirical verification, there would be concern if Australia was losing the 'brightest and the best' of home grown academics and receiving those with lesser achievements (Wood et al. 2004).

There is no doubt, recruits of overseas academics must be an important strategy for Australian universities over the next two decades but it will involve quite different approaches than those used previously.

A third, less obvious strategy relates to Australian universities benefitting from developing policies toward the national academic diaspora, particularly that part of it which includes their former students and staff. They represent an important part of Australian universities' social capital and an important source of potential future staff. Australia has a diaspora of around 1 million people and academics, researchers, scientists and technologists are an important part of it (Hugo, Rudd and Harris 2001; 2003). There has been an increasing flow of Australian academics to foreign universities and research institutions. This in many ways is a healthy part of our university system in a globalising world and international mobility between universities is a longstanding practice. The scale of this mobility out of Australia is currently at record levels, although in numerical terms, it is more than counterbalanced by an inflow of immigrant academics (Hugo 2005).

The Australian academic diaspora represents a potential source of recruits at a time when Australian universities are facing their greatest recruiting task for three decades. Some are not intending to return because of a perception of a lack of comparable opportunity in Australia (Hugo 2005). However, others are prepared to forgo this and are keen to return, largely for family and lifestyle reasons. However, research suggests that such intentions often do not result in people returning but that the intention can often be turned into action if people receive a specific job offer. There also undoubtedly are ways in which the life of Australian universities can be enriched by engaging the diaspora in research and teaching activities while they are still living overseas (Hugo, Rudd and Harris 2003).

CONCLUSION

Australian universities over the next decade will be faced by their largest recruitment task for three decades. This task will have to be addressed in a context of the most competitive international labour market for the skilled academics, scientists, technologists and researchers that has ever existed. If Australian universities are to maintain their current levels of excellence, let alone enhance them, a range of innovative human resource strategies will need to be initiated. This will include a judicious mix of strategies which might include among other things – new blood programmes, early recognition of new talent, family friendly policies (especially for women), ‘bringing them back’ programs to repatriate former staff and students of the university, developing joint international exchanges in teaching and research, incentives to keep ‘high fliers’ in the university, gradual retirement programs for selected staff and accelerated promotion for key staff.

Endnotes

¹ Australian Bureau of Statistics (ABS) 1997, *Australian Standard Classification of Occupations*, Second Edition, Catalogue No. 1220.0, ABS, Canberra

² Industry (ANZSIC) Class – 8431 Higher Education (this class consists of establishments engaged in providing university undergraduate or post graduate teaching or research). Selected occupations- those listed below were selected as (in totality) they would generally represent 'academic staff'.

Occupations such as clerks, tradespersons, technical assistants, librarians, general administrative and managerial staff, etc. are specifically excluded

Selected occupations (ASCO2)

1293 Education managers (incl Faculty Heads)

1299 Other Specialist Managers (e.g. R&D Managers)

2000 Professionals, not further defined

211 Natural and Physical Science Professionals

212 Building and Engineering Professionals

223 Computing Professionals

2293 Mathematics, Statisticians and Actuaries

2322 Nurse Educators and Researchers

240 Education Professionals, not further defined

242 University Lecturers and Tutors, etc

249 Miscellaneous Education Professionals

³ The concentration of people into a narrow range of age groups.

⁴ Males per hundred females

⁵ *Permanent movement* is defined by DIMIA as persons migrating to Australia and residents departing permanently;

Long term movement is defined by DIMIA as temporary visa holders arriving and residents departing temporarily with the intention to stay in Australia or abroad for twelve months or more, and the departure of temporary visa holders and the return of residents who had stayed in Australia or abroad for twelve months or more.

⁶ The data available only allowed for calculation of rates over 2 years.

⁷ Profiles were also done for contract academic staff and for tenured and contract general staff.

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Australian Postgraduate Award Stipend Rates with Average Weekly Earnings and Henderson Poverty Line

