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THE CHANGING STRUCTURE OF HIGHER EDUCATION IN
AUSTRALIA, 1949-2003

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The changing structure of higher education in Australia, 1949-2003

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ABSTRACT:

Throughout the second half of the twentieth century the higher education sector in Australia went through a series of reorganisations culminating with the formation of the Unified National System in the late 1980s. With this final reorganisation the various technical colleges, teachers' colleges and colleges of advanced education disappeared from the structure of higher education in Australia and were incorporated into a system of multi-campus universities. By analysing these structural changes over the long term it is possible to get a greater understanding of the way in which changes in government policy and public demand impacted upon the structure of higher education institutions in Australia. The particular stress is on the manner in which public demand for graduates has interacted with the formulation of public policy.

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Introduction

During the second half of the twentieth century Australian universities have been through a remarkable process of expansion, change and adaptation. In the late 1940s Australia's universities were modest institutions consisting of a single university in each state capital along with the newly established, research orientated, Australian National University in Canberra. As well two university colleges were located in Canberra and Armidale in New South Wales. The number of university students enrolled in Australian universities in 1949 at 31,753 was tiny compared to the numbers enrolled in higher education at the beginning of the twenty-first century; 828,871 in 2003 (*Official yearbook of the Commonwealth of Australia; Students...selected higher education statistics 2001*). The scale of the universities has changed over this period as well. In 1949 Australia's largest university had only 4,500 students (University of Sydney) compared to over 48,477 for Australia's largest in 2003 (Monash University). Other major differences in 2003 include the predominance of multi-campus universities, a far wider range of courses, higher proportion of graduate students, greater concentration on research and greatly increased proportion of students who are from overseas or female.

Although the majority of Australia's universities are government owned and gain significant funding from public sources it is impossible to understand the development and manner in which Australia's universities have changed without recognising that their structure is also heavily influenced by the demands of students and industry. The Commonwealth Government has made a substantial contribution to growth in higher education in the post-war era, and has been responsible for the major shifts in policy, the universities however have also had to respond to what might be called 'market forces'.¹ The Commonwealth Government and its state counterparts have to a considerable degree had to make policy shifts in response to changes in public and industry demand for graduates. The purpose of this paper is to chart the course of the development of higher education in Australia during the years 1950 to 2003 and comment on the

¹ Although the Commonwealth Government only took over the full government funding of the states in the early 1970s it did match state government grants to the universities during the 1960s and was responsible for most of the policy initiatives of the 1950s and 1960s.

major consequences of the changes in institutional structure in Australian higher education. In particular the interaction between market demands and policy formulation is stressed. Universities and public policymakers have had to respond to the changing global education market in which they operate and the demands of students and industry. Public policy making and the restructuring of the higher education sector does not occur in isolation but is influenced considerably by the pressures put on the government to respond to public demand. It is an opportune time to have a look at the way that government policy and public demands have impacted on the Australian higher education sector especially since in recent years there has again been considerable debate about university funding arrangements as part of the so-called “Nelson” reforms.

The immediate post-war years

The first of Australia’s universities (Sydney and Melbourne) were founded around the middle years of the nineteenth century. By the time the First World War broke out each state possessed a single university in its capital city. Further growth of these universities continued in the inter-war years but by the time of the outbreak of the Second World War the Australian universities were still small institutions, remote from the main concerns of most Australians and enrolling only a fraction of the population (around 0.2 per cent in 1939; compared to 3.3 per cent in 2001). At this stage the Australian universities were still primarily teaching institutions with little money being made available to them to support research and with few post-graduate enrolments. Although similar in nature, Australian universities at this time were not part of a unified system but varied in terms of their student fees, state government funding arrangements and endowments. State government grants made up about one half of the funding of the universities’ with student fees making up the bulk of the rest (Table 1).

Expansion of the universities prior to the Second World War had been inhibited by a combination of lack of funds made available to them by the state governments but also by a deficiency in demand for graduates on the part of industry and government. At this time most Australians gained their skill and knowledge by learning on the job or by undertaking part-time classes in technical colleges. Most Australians at this time did not go onto secondary education so there was not strong demand by the education sector for university educated school-teachers.

Primary school teachers tended to get their training in the school and teacher's colleges. Although the expansion of the universities after the war can only be understood in the context of significant Commonwealth Government involvement, but it must be noted that this involvement was initiated in response to an increase in demand by government and industry for university educated people. Without this increase in demand and the subsequent shortage of graduates that it created substantial government funding would not in all probability been forthcoming.

Prior to the war the Commonwealth Government had only made a very minor contribution to university funding in the form of assistance for limited research related to its own activities (i.e. generally defence or agriculture development). From 1942 the Commonwealth Government was to make a substantial contribution to university funding as well as take a more prominent role in the development of higher education public policy. At the same time the Commonwealth Government began to recruit graduates in large numbers into the Commonwealth public service, which opened up many new career opportunities for graduates.

In 1942 the Commonwealth government introduced a scheme of financial assistance to students enrolled in faculties reserved as essential to war industries in order to overcome shortages of graduates, especially in science and engineering. This assistance was continued after the war when the universities became substantial beneficiaries in the second half of the 1940s from the Commonwealth Reconstruction Training Scheme, which assisted thousands of returned service men and women to enter tertiary institutions. The war had left Australia with a chronic shortage of graduates in many fields and as economic growth after the war was buoyant demand for graduates was very strong. The funds forwarded by the Training Scheme were therefore designed not just to help ex-service men and women re-enter civilian life but was also designed to enhance the skills of the workforce to meet the needs of a growing economy (Tannock 1976). This motivation on the part of the Commonwealth Government to intervene in higher education in order to attempt to increase the skill level of the Australian workforce was to be a continuing theme of government higher education policy making in the second half of the twentieth century. At the same time the passing of the *Uniform Taxation Act 1942* shifted responsibility for the collection of income taxes from the states to the Commonwealth Government. This greatly increased the capacity of the Commonwealth Government – and greatly reduced the capacity of

the states – to fund higher education expansion after the war. It also meant that the Commonwealth Government would become increasingly involved in determining the structure of Australia's universities.

By 1950 the number of enrolments of Australian universities was over twice what it had been when the Second World War had broken out (30,630 compared to 14,236) - although enrolments began to taper off in the early 1950s (*Official yearbook of the Commonwealth of Australia*). In order to boost the funding of universities in the early 1950s the Menzies Government appointed a committee to make recommendations about additional funding (the Mills Committee). This resulted in additional Commonwealth Government grants being forwarded to the universities. Up until this stage the intervention of the Commonwealth Government had enabled the universities to grow far beyond their pre-war size however it had been perceived as being temporary in nature in order to overcome the turmoils of the war and reconstruction periods. One of the major changes in terms of government responsibilities that had occurred during the war had been the passing of responsibility for raising income taxes from the State to Commonwealth Governments under the *Uniform Taxation Act*. One result of this was that it left the state governments without adequate funds to finance expansion of the universities.

One interesting aspect of the Australian universities was the presence of overseas students in them. During the 1950s and 1960s the Commonwealth Government provided financial assistance to overseas students as part of the Colombo Plan for aid to under developed nations of the Commonwealth. Although the absolute numbers were small compared to numbers later in the 1980s and 1990s as a percentage of total student numbers, overseas students made up a percentage in the late 1950s that was not matched until the late 1990s (Table 2). This assistance given to overseas students during the 1950s and 1960s helped to add an additional source of effective demand for Australian university education.

Late in the 1950s the Commonwealth Government began to make a more substantial, permanent, intervention into higher education policy. In 1957 the Murray Committee investigated the state of Australian universities on behalf of the Commonwealth Government and found that they were overcrowded, short staffed, poorly housed and under equipped. Although demand for Australian

university education had grown steadily in the mid to late 1950s the state governments had found it difficult to raise the funds needed to support expansion of their universities. The Committee recommended that the Commonwealth Government make a substantial contribution to recurrent funding and begin to give capital grants to the universities on a permanent basis so that additional expansion could occur so to meet public demand.

The Commonwealth Government accepted the recommendations of the Murray Committee and it was the intervention of the Commonwealth Government in the form of capital grants to the states for higher education that led to the opening of a number of new universities in Australia during the 1960s (Harman and Smart 1982; Gallagher 1982). In the post-war era the Australian National University was founded in 1946, New South Wales University of Technology in 1949 (later the University of New South Wales) and the University of New England were founded in 1954. After the Murray Committee reported Monash was opened in 1958, LaTrobe and Macquarie in 1964, Newcastle in 1965, Flinders in 1966, James Cook in 1970, Griffith in 1971, Murdoch in 1973, Deakin in 1974 and Wollongong in 1975. The Commonwealth Government by accepting the advice of the Murray Committee accepted the prime responsibility for the making of higher education policy in Australia as well as accepted the greater part of responsibility for providing the funds. The period of the 1960s proved to be a period when expansion of the universities was as at its highest, growth that could not have occurred without the substantial intervention of the Commonwealth Government. Growth in student enrolments in the late 1950s and early 1960s reached up above ten per cent per annum (Figure 2) and the growth in the dependence of the universities on Commonwealth Government support can be best illustrated by the sharp fall in funding from student fees which by 1964 had fallen to nine per cent of funds whereas it had been over 30 per cent in the pre-war years (Table 1). At the same time higher education funding by the Commonwealth and state governments became relatively more important rising from 0.22 per cent of GDP in 1957 to 0.78 per cent by 1974 (Table 2). Higher education expenditure by the government also rose from 0.83 per cent of total government expenditure in 1957 to reach 2.77 per cent by 1974,

Despite the importance of the intervention of the Commonwealth Government in providing the funds for the expansion of the universities in the 1960s it must be recognised that the

Commonwealth Government did not simply act on its own initiative to facilitate the expansion of the universities. During the late 1950s and 1960s there was a rapid expansion of the secondary school system in Australia, which meant that there was a greater flow of students to higher education levels. This growth in secondary education also meant that there was a much greater demand for the employment of secondary school teachers, which were educated in universities as well as strong demand for graduates of all sorts in an economy that was growing steadily with unemployment levels being very low. It was for this reason that the strong growth in university enrolments pre-dates the deliberations of the Murray Committee and indeed it was the strong growth in enrolments in the years 1955 to 1958 which brought on the crisis in the university system that the Murray Committee was set up to investigate.

This increase in government expenditure and expansion in student enrolments before 1965 took place in a university system structure that was largely the same that had been in place at the beginning of the twentieth century. Gradually as government expenditure rose the question began to be asked whether this structure was appropriate one to accommodate this expansion in enrolments.

The origins of the binary system

Because of the heavy financial burden placed on the Commonwealth Government by the taking over of financial responsibility for the expansion of the universities a rethink of this process took place in the early 1960s. In particular a twenty-five year experiment began in 1965 with the creation of the 'binary' higher education system of universities and colleges of advanced education.² This system survived until the late 1980s when the binary system was replaced with the Unified National System. One of the main justifications for the creation of the binary system in the 1960s was that it was hoped that it would enable the expansion of higher education in Australia without incurring the full costs that would have occurred if universities had simply been expanded to meet demand. Oddly enough this concern with cost restraint was also one of

² It was at this time the term higher education came into use in Australia. In Australia the term tertiary education is used to denote all post-secondary education institutions. This includes trade training colleges (TAFE colleges) as well as colleges of advanced education and universities. The term Higher Education is therefore used to denote the combined college of advanced education and universities sectors.

the main justifications for the abolition of the binary system and the incorporation of the colleges of advanced education into university sized institutions in the late 1980s (Dawkins Report 1988).

The advanced education sector of Australian higher education developed from the mid-1960s on the basis of the recommendations made by the Committee on the Future of Tertiary Education in Australia to the Australian Universities Commission in 1964-5 (Martin Report 1964-5). The Committee advocated the establishment of colleges which would concentrate on teaching at the higher education level rather than the conduct of research, the main rationale being that these colleges, would enable higher education to expand while avoiding the high costs of setting up additional universities. Most of the colleges of advanced education that were established in the 1960s traced their origins to the development of teacher training and technical education. Before the intervention of the Australian Government in the early 1960s each state government developed a network of diploma courses concentrated in engineering, science and commerce conducted in senior technical colleges. At the beginning of the 1960s many of the technical colleges enjoyed a degree of autonomy from the Education Departments to which they were responsible and were subject to a minimum of control in such matters as new staff positions, approval of courses, fees and overall, but not detailed budgetary control. The technical colleges provided diploma and certificate courses for students who undertook full-time or part-time study as well as trade classes for apprentices.

Besides the technical colleges, teacher-training colleges also operated in Australia. From the early twentieth century until the late 1960s, teacher education in Australia was conducted mainly in small teachers' colleges controlled by the state governments' education departments. Education Departments determined staffing appointments, salaries, awards, buildings, and finances. During the 1950s and 1960s the natural increase in the population, immigration, and increasing progression of students from primary to secondary schools produced a great increase, first in primary school enrolments and later in secondary school enrolments. At this time secondary school education increasingly came to be seen as the avenue to white-collar employment. During the 1950s secondary teachers generally completed a three-year university degree, plus a one-year Diploma of Education. Many education departments found that it was unable to staff the new high schools with graduates and so shorter courses were established to fill

the gap. In order to run these courses secondary school teachers' colleges were established for the first time.

At the same time that the technical colleges and teachers' colleges were expanding their activities there were moves to assist them with Commonwealth Government funding and make both types of colleges autonomous from the Education Departments (Davies 1989). This process began in 1964 when the Martin Committee began its investigation of the universities, teacher training, technical education and various other issues associated with tertiary education in Australia. The Committee was established in the context of an accelerated growth of universities and a concern whether their continued expansion was the most appropriate way of responding to the expanding demand for higher education. The main recommendation of the Committee was that the Government should promote: 'the expansion, improvement and establishment of appropriate institutions to provide a wide diversity of tertiary education.' The main rationale for additional government support of tertiary education was that it was: 'an essential condition for the growth of national production and the maintenance of Australia's place in the ranks of the technologically advanced nations' (Martin Report 1964, Vol. 1, p. 221). This argument mirrors the strong case that was made in many other countries during the 1960s that education contributed to economic growth and productivity and hence public policy should be aimed at raising the participation levels in higher education. This was encouraged by the work of a number of American economists including Solow, Mincer, Schultz, Becker and Denison, (Solow 1957; Mincer 1958; Schultz 1961; Becker 1964; and Denison 1962) who developed human capital theory at this time. Human capital theory has it that investment in education encourages an increase in the productivity of the workforce as well as an increase in returns not just to individuals but also to society as a whole (Chapman and Pope 1992; Quiggin 1999).

This view that investment in education could make a positive contribution to the economic growth and development of the Australian economy is reflected in the reports on higher education during the 1960s, 1970s and 1980s. The Martin Committee felt that: 'Education should be regarded as an investment which yields direct and significant economic benefits through increasing skills of the population and through accelerating technological progress. The Committee believes that economic growth in Australia is dependent upon a high and increasing

level of education' (Martin Report 1964, Vol. 1, p. 221). This emphasis on the benefits to technical progress and economic growth of tertiary education expansion has been a constant theme in government reports in Australia on tertiary education (see for instance Murray Report 1957; Dawkins Report 1988; National Board of the Task Force on Amalgamations in Higher Education 1989). Paradoxically in the case of rising costs both the creation and dismantling of the binary system appears to have been a rationale. The Committee advocated the development of existing non-university tertiary institutions - the diploma sections of technical colleges and the teachers' colleges - to university standard in order to relieve the pressure on universities generated by the growing number of students seeking tertiary education (Martin Report 1964, Vol., 1, p. 171). It was argued that these colleges would concentrate on teaching, rather than research, and so therefore could be operated at a lower cost per student. The Committee estimated that even after upgrading the technical colleges expenditure per student would only be sixty per cent of the universities (Martin Report 1964, Vol. 1, p. 171). It was also recommended that a single Commonwealth Government education commission be established to co-ordinate the system and that state governments should be encouraged to establish separate boards to co-ordinate the activities of the technical and teachers' colleges in their respective states (Martin Report 1964, Vol. 1, p. 196).

The Commonwealth Government accepted the main thrust of the Martin Report but in considering the recommendations Cabinet initially decided that the Commonwealth Government would not enter the field of teacher education, but would only contribute to the cost of technical education. The readiness of the Government to adopt the Martin Report was no doubt due to its fear about the rising cost of financing university growth, and it was felt that upgrading existing colleges would save establishment costs and expenses. The Minister in Charge of Commonwealth Activities in Education and Research, Senator John Gorton, made a Ministerial Statement on 'Tertiary Education in Australia', on the 24 March 1965 laying out the plans of the Commonwealth Government (the Prime Minister delivered the same statement on the same day in the House of Representatives). Gorton stated that the government would establish a: 'broad comprehensive, system of tertiary education, with an emphasis different, but complementary to tertiary education at present provided by universities' (*Commonwealth Parliamentary Debates* 1965, Vol. S. 28, p. 67). The colleges were to be teaching institutions and would only offer

diploma level courses, which contradicted the Martin Report, which envisaged that some institutions would eventually develop degree courses - the Bachelor of Technology and Bachelor of Business Studies (Martin Report 1964, Vol. 1, p. 183). A Commonwealth Advisory Committee on Advanced Education was appointed in August 1965 (later in December 1971 replaced by the Australian Commission on Advanced Education), to advise on financial aid to tertiary institutions other than universities. The Advisory Committee submitted its first report in June 1966 and recommended grants for capital and recurrent grants to various institutions for the triennium 1967-69.

In practice the colleges proved to operate pretty much as they were originally designed. They accommodated a considerable increase in demand for higher education places, at a significantly lower cost than an equivalent university expansion would have incurred. The major difference between the cost of running the college and university sectors was attributable to the higher post-graduate enrolments in universities, the research component of the university grants and the greater number of high cost professional programmes in universities (Australian Vice-Chancellors' Committee 1989). The binary system therefore succeeded in containing costs by restricting colleges in their research and post-graduate activity. From Table 2 it can be seen that there was a significant decline in the real funding of students in Australian higher education in the second half of the 1960s and early 1970s. From \$11,065 per equivalent full-time students (EFTS) in 1990 constant dollar terms in 1964 it fell to \$8,792 by 1974 (Table 2).

Later studies of the colleges themselves showed that staff were orientated toward teaching rather than research and valued research less consistently than their university counterparts (Moses and Ramsden 1993; Everett and Entekin 1987). The colleges had a more applied emphasis, quality in teaching was regarded as paramount and far less attention was given to post-graduate training and research. Courses in the colleges concentrated more on technical subjects, which included business and administration rather than the arts or pure sciences. Encouraged by the belief that higher education would boost economic growth and the increased demand for graduates, investment in higher education and enrolments increased strongly during the late 1960s and early 1970s (Figures 1 and 2). Higher education expansion was also encouraged by the belief that as well as promoting growth expansion of higher education would also promote more equal

educational opportunities (Chapman and Pope 1992). This view was held particularly by the Whitlam Labor Government of 1972-75, which not only increased funding to higher education, but also took over full responsibility for it from the states and abolished student fees in 1974.

As the expansion of the colleges got under way the structure of teacher training in Australia also began to change. In February 1972 the Senate Standing Committee on Education, Science and the Arts reported on the Commonwealth's role in teacher education (Senate Standing Committee on Education, Science and the Arts 1972, p. ix.). It recommended that teachers' colleges be granted funding for capital and recurrent expenditure under similar arrangements to the colleges of advanced education, that teacher training colleges, when not associated with a university, should be incorporated into the college structure and that new institutions should be planned as multi-purpose institutions. It also advocated that single purpose teachers' colleges be removed from the direct control of the state departments of education and that four year integrated courses be introduced. This the Government accepted and in August 1972 the Commonwealth Government's Minister for Education, Malcolm Fraser, arranged that from 1 July 1973 teachers' colleges would be incorporated into the advanced education sector and should become autonomous institutions. The Senate Committee's proposal that teachers' colleges be incorporated into multi-purpose colleges of advanced education gradually began to take place during the 1970s. As a part of this process some smaller of the regional teachers' colleges disappeared during the 1970s when they were amalgamated with institutes of technology to create colleges of advanced education. This took place mainly for financial and political reasons, as the new colleges in country centres were short of students and needed to take over teacher education in order to survive. Finally in the 1980s the remaining metropolitan teachers' colleges disappeared when they were all amalgamated with various colleges of advanced education.

At the same time that autonomy was being prepared and granted the basic course structure undertaken by the teachers' colleges was upgraded to university standard. During the 1960s there was a growing belief that the two-year certificate course was too short and should be replaced with a longer one. This demand for a longer course was given a considerable boost in 1964 when the Martin Committee advocated three-year courses (Martin Report 1964, Vol. 1,

p.103). Despite the upgrading of the teacher education courses the teacher's colleges found themselves faced with a crisis in the late 1970s. From 1974 onwards a brake was slowly applied to the numbers entering teacher education. Rapidly worsening unemployment and reduced job opportunities led to a fall in the resignation rate of teachers. As fewer women devoted their lives to bearing and raising children, both teacher resignations and the birth rate declined. Furthermore because of the large numbers of young teachers recruited in the 1960s the retirement rate of teachers was low. By the late 1970s Australia was faced with a situation of having too many teachers, being trained in too many colleges of advanced education and universities.

From 1965, with the aid of Commonwealth Government funding, the expansion of the college sector was strong, further boosted after 1973 with incorporation of the teachers' colleges into the college of advanced education structure. By 1977 over 100 institutions were classified as colleges of advanced education, although by 1979 the total number had been reduced to seventy as a result of amalgamations between colleges. By the late 1970s the college sector had passed the universities in total enrolments (see Figure 3), making Australia one of the few countries in the world where the majority of higher education students were in non-university institutions. The college sector itself was a rather diverse one including large metropolitan institutes of technology, regional colleges, metropolitan multi-purpose colleges, colleges where teacher education was still predominant, and a collection of specialist colleges for agriculture, para-medical studies and the arts. In terms of size the colleges varied greatly, forty-two of the seventy colleges having less than 2,000 students although some of the metropolitan Institutes of Technology had enrolments of over 11,000.

The creation of the binary system was to largely carry out what it was intended to. The period between 1965 and 1985 was one of considerable growth in higher education enrolments, which would no doubt have been far more expensive if the universities had simply been funded to grow as they had before 1965 to meet student demand. Nonetheless by funding technical and teachers colleges to develop into colleges of advanced education it led to the creation of a very fragmented higher education sector. By 1974 there were 76 colleges of advanced education and 18 universities in Australia. The colleges themselves averaged in size only 1,410 students, many

being far smaller than that (Table2). These small colleges were consequently very expensive to run compared to the number of students they graduated. As the higher education sector expanded and made increasing demands on public funds attention began to turn to ways of continuing further expansion but with reduced costs.

The mergers of 1981/82

Throughout the 1970s the cost of higher education funding became a concern to public policy makers. There was also an increasing disillusionment during the 1970s with the efficiency and equity of favouring expansion of higher education. In terms of equity government subsidies increasingly were felt to favour students from well off backgrounds rather than students from low-income backgrounds. The earlier notion that more education would steadily erode the income advantages of the highly educated, so that greater equality would be achieved lost favour. By the mid 1970s the earlier optimism that expansion of higher education would effectively equalise life chances gave way to pessimism about the possibilities of affecting the distribution of income through the provision of higher education. In terms of efficiency it was pointed out that although it might be accepted that education contributes to economic growth, so too did many other activities and so what must be shown in order to justify subsidies to higher education was that more education contributes to growth at the margin more than expenditure on other activities such as health, housing, transport or public utilities.³ Worried about inflation, stagnating growth, higher unemployment and increasing claims on the public purse many western governments became reluctant to finance additional funding of higher education expansion. In Australia expansion of higher education in the early 1970s had been strong (see Figure 2) and the abolition of student fees meant that government funding commitments increased sharply. By 1979 government spending on higher education had almost tripled in real terms what it had been ten years earlier (\$2,935 million compared to \$1,060 million in 1990 constant dollars).

³ The 'screening hypothesis' also became popular, that is the belief that the additional income to higher educated is associated with education but not caused by it (Blaug 1976, 1985). This view has been expressed in the work by Maglen 1990, 1995 and the Institute of Public Affairs 1990. A more relevant argument is that higher education can combat a market failure in that higher education creates positive externalities. Weale has shown that there externalities from education do exist in a static form, in that a relatively large trained population might raise labour productivity of the entire work-force and dynamically in that a society's ability to take up new production methods may be enhanced by higher levels of education, (Weale 1992).

One of the most ironic results of the Commonwealth Government taking over full funding of the universities from the states and from student fees is that it put on an effective break on higher education expansion. By concentrating funding from a single source and then having to make it compete for funding with other government programs it made it difficult to maintain growth of the system beyond a certain point.

From 1975 onwards attempts were made to reduce the real cost of higher education. From an historic high level of funding per EFTS in 1977 the system experienced a decline in total real funds that continued for a decade (see Figure 4). Growth of enrolments also declined (Figure 2). Over the period total student enrolments in Australian higher education institutions grew by more than 25 per cent, but the operating grants rose by only 16 per cent per EFTS (Department of Employment, Education and Training 1993, p. 15). In the early 1980s the universities and colleges faced a depressed level of funding due to a period of recession and falling tax receipts. On the 30 April 1981 the so called 'Razor Gang' - a Commonwealth Government committee formed to consider ways of reducing government expenditure - announced that thirty higher education institutions around Australia, must arrange amalgamations if they were to continue to receive Commonwealth Government funding. In this case mergers were associated with government concern over the efficient and effective use of resources in higher education through the rationalisation of institutions and courses. The total student load in the advanced education sector was to be maintained, and there was to be a modest expansion in the technologies and business studies at the expense of teacher education (Commonwealth Tertiary Education Commission 1981, Vol. 1, Part 3, p. xv). The Tertiary Education Commission Report for the Triennium 1982-84 published in February 1981 advocated a considerable decline in teacher education enrolments. The government planned that recurrent grants would fall in real terms during the triennium (1984-84) and in order to prevent a declining standard of education smaller institutions were consolidated into larger units, allowing savings to be progressively realised (Commonwealth Tertiary Education Commission 1981, Vol. 2, Part 2, p. xv). The main theme of these amalgamations was that metropolitan teachers' colleges would amalgamate with institutes of technology so that resources could gradually be transferred from teacher education to science, technology and business studies.

Funding cuts were imposed on all higher education institutions in Australia regardless of size and type, and so the various colleges and universities faced the prospect of maintaining enrolments with fewer funds and at a cost to general services and education quality. The Commonwealth Government recognised this when the Commonwealth Tertiary Education Commission wrote in its report for the 1982-84 triennium that: 'The reduced level of funding for the 1982-84 triennium means that a decline in the operating standards of some Universities is now unavoidable' (Commonwealth Tertiary Education Commission 1981, Vol. 2, Part 1). The purpose of the amalgamations would therefore seem to have been to reduce spending without sustaining any cut in services. Whether this actually occurred is difficult to determine. The main way that the cuts in the early 1980s were accommodated was not so much through administrative savings but by raising student to academic staff ratios.

It was hoped that the amalgamation of institutions would achieve economies of size. This proved difficult as the creation of multi-campus colleges created administrative problems. The financial gains from the amalgamation clearly took a number of years to be realised and even then were clouded by a number of issues. A Task Force reporting on higher education amalgamations expressed some doubts about the mergers; 'many of the 1981-82 mergers involving teacher education institutions did not work out as well as expected' (National Board of Employment, Education and Training 1989, p. 6). The most significant result of the mergers appears to have been that it enabled resources to be shifted from teacher education to business studies and applied science studies. This process helped to achieve economies of size and make financial savings as it allowed expansion of student numbers (Abbott 1996a, 1996b). The mergers of the 1980 were destined to be nothing more than a precursor of an even far larger round of institutional merger after 1987.

The end of the binary system

After the strong expansion of the colleges of advanced education in Australia during the 1970s considerable uncertainty about the survival of the binary system was expressed during the 1980s. Increasingly the colleges became to resemble universities, or in some cases - such as in the merger of the Gordon Technical College and Geelong Teachers' College which became Deakin

University in 1975 - converted to University status. Finally with the release of the Commonwealth Government's Green Paper in December 1987 (*The Challenge for Higher Education in Australia*), and White paper (*Higher Education: A Policy Statement* July 1988), it was decided to consolidate higher education institutions into larger units and bring to an end the binary system. It was believed that the binary system was held together within a legal framework that did not reflect reality and it was thought by many that the division between the two types of institutions was arbitrary (Committee of Enquiry into Efficiency and Effectiveness of Higher Education 1986, p. 13). Through the 1970s and 1980s the move of the colleges first into graduate courses and then into applied research and post-graduate courses created an overlapping of the two systems. Although undergraduate teaching had a high value in colleges some staff began to move toward applied research activities. Colleges became engaged in graduate teaching and there was considerable overlap at the undergraduate level. Recruitment within the college sector increasingly became similar to that of the universities with research qualifications and experience becoming increasingly more valued. College diploma courses were upgraded to degree status from 1968 and by the mid 1970s undergraduate degree courses dominated the course mix of the colleges. Post-graduate courses were later added, with the notable exception of Ph.D.s. By the mid-1980s a number of the larger metropolitan Institutes of Technology were actively seeking conversion to university status, one of them achieving this in 1986 when the Western Australian Institute of Technology became the Curtin University of Technology. At the same time the perception had arisen that even larger institutions would be needed if further expansion of tertiary enrolments were to be achieved, whilst again restraining costs. This meant that institutions had to readapt themselves to conform to a policy initiative, many colleges being perceived as being too small to achieve the necessary economies of scale. Most of the smaller colleges were thought to have too narrow a profile to be redesigned as universities and therefore were encouraged to amalgamate with larger institutions. Renewed growth over the second half of the 1980s resulted from increased demand for higher education and higher secondary school participation rates, but also because of deliberate Government policy to increase the number of school leavers going onto higher education and rearrange the structure of institutions to accommodate this expansion.

By the mid 1980s the Hawke Labor Government became keen to encourage expansion of the higher education system in order to promote greater access and to encourage a development of the skill base of the work-force but wanted to avoid putting too much of a financial burden on tax-payers and be open to accusations that additional spending would favour those from well off backgrounds. In 1988 the Wran Committee reported that: 'The advantaged who use and benefit directly from higher education ought to contribute directly to the cost of the system and the taxpayers should not be expected to carry the burden of financing the growth envisaged in higher education, particularly since few directly enjoy its benefits' (Wran Report 1988). The response was the introduction of the Higher Education Contribution Scheme, whereby students became liable for a contribution that was intended to be about one fifth of the average tuition fee. Students have the option of paying it when they enrol (with a 15 per cent discount) or pay it when their annual earnings reach the national average and is collected through the taxation system. The scheme is therefore a tax funded income contingent loan scheme with subsidised interest rates, designed with the explicit aims of expansion and improved access.

Another motivation was the perceived need to boost higher education in order to promote economic efficiency and economic growth. In this there was a reflection again of the views expressed at the time at the time of the Murray and Martin Committee investigations. The view was again expressed that a more highly educated population would help to create a workforce that was more skilled and adaptive to the changing needs of industry and commerce. The Australian Government's Green Paper on Higher Education (1987) for instance stated that expansion of higher education was necessary: 'to achieve the educated workforce that is essential for Australia's economic growth'.

The major structural change announced in the White Paper in 1988 was the replacement of the binary system of higher education by the Unified National system, which was to be the focus of the Government's support for growth and reform in higher education. The White Paper stated that under the new system there had to be fewer institutions. The Dawkins White Paper of July 1988 argued that the consolidation of the colleges of advanced education into institutions of university size would achieve 'economies in administration and other overheads including, capital costs' (Dawkins Report 1988, p. 47). The Unified National System consists of

institutions beyond a minimum size of 2,000 EFTS with specific missions agreed to and funded by the Australian government. A load of 5,000 EFTS was seen as appropriate for justifying a broad teaching profile and a load of 8,000 EFTS as a benchmark for assessing the extent to which an institution should be funded for research across its educational profile. Institutions with a student load in the 2,000-5,000 EFTS range and with little prospect of substantial growth were encouraged to merge. It was hoped that institutions would also realise lower average per capita costs as they increased in size, even when their educational profile did not change. At the time overseas studies found that Liberal Arts colleges with three and four year courses achieve most scale related economies by the time enrolments reach between 1,500 and 2,000 EFTS (Brinkman and Leslie 1986). Government policy seems to have approximated this view feeling that unit costs could be greatly reduced because of the achievement of economies of size up to an enrolment of 2,000 EFTS in terms of teaching institutions and 8,000 in universities (Committee of Enquiry into Efficiency and Effectiveness of Higher Education 1986). Expansion of the provision of higher education could then occur without the large increase in funding that had been required to enable previous expansion of the system.

In terms of the courses offered smaller institutions were considered unlikely to be able to support effectively a comprehensive teaching programme or to undertake significant research across a broad range of academic fields. The major constraint faced by smaller institutions was the limited number of academic staff that could be supported within available resources. If these staff were spread across too many fields there could be a lack of the necessary expertise in any particular field. If on the other hand staff were concentrated in only a few major fields the institutions would have only a limited range of academic offerings and would be susceptible to sudden and substantial shifts in student demand. This had clearly been a problem in the late 1970s and early 1980s when there was a sharp reduction in demand for education places and a sharp increase in demand for business studies. The Unified National System was designed to develop greater flexibility and responsiveness across all higher education institutions enabling them to adapt more readily to changing patterns of demand whether between different disciplines of study or between different courses within each field of study. The abolition of the binary system saw the number of higher education institutions in Australia fall from 87 in 1982, with an

average size of 3,900 students, to only 39 in 1992 with an average size of 14,300 (Department of Employment, Education and Training 1993, p. xxix).

Since the amalgamations have taken place there has been considerable confusion within higher education in Australia about whether economies of size have been achieved. This confusion has been enhanced by the changing role of the institutions themselves. Some studies, however, have found that the amalgamations have shown 'modest cost gains which are in general, due to scale effects' (Lloyd, Morgan and Williams 1993, p. 1089). The scope for cost gains however has been restricted by the need to operate multi-campus universities, which have involved some additional expense.

Over the period that the merger occurred government funding as a proportion of both GDP and total government expenditure fell (Table 2). This fall was accommodated by both a rise in funds received from students and from the economies that were achieved by amalgamations. However these two were insufficient to maintain standard as they were before 1987 and the fall in government spending was accommodated, at least in part, by a rise in student to academic staff ratios. From 11.2 in 1984 this figure rose to 15.4 by 1994 (Table 2). The Unified National System, therefore, has seen the universities become more interested in raising additional finance from other sources besides the Commonwealth Government.

The Unified National System

Although the expressed aim of the reforms in the late 1980s was to expand the higher education system and enable the accommodation of more students some have also argued that the abolition of the binary system and its replacement with the Unified National System was in part precipitated by the Minister for Employment, Education and Training, John Dawkins, in order to gain more effective government control over the higher education system (Williams, 1991; Smart 1997; Barcan 1997; Bessant 1993, 1996). The Unified National System saw the elimination of buffer bodies like the Commonwealth Tertiary Education Commission and State Government Higher Education Boards, their administrative functions being subsumed into the Department of Employment, Education and Training. All of these moves increased the potential for more direct control by the Department and the Minister. The new funding arrangements that

were associated with the Unified National System saw an increase in Government control, because funds provided by students were centralised and allocated according to Government priorities rather than to the institutions enrolling the students. The Government actively pushed that the amalgamations occur with considerable emphasis on the financial implications for those that did not get involved.

The greater central control on the part of the Department of Employment, Education and Training meant that increasing the provision of higher education was made subordinate to “national priorities” as determined by the responsible Minister and the Department (Barcan 1997). Prior to the development of the Unified National System universities in Australia were largely autonomous even though the vast bulk of their funds came from the Commonwealth Government. Although the universities in the past had been used as the instrument of both State and Commonwealth Government policy - for instance in the provision of education for the post-war reconstruction returned servicemen, secondary school teacher training and Colombo Plan students – the universities were largely left to operate as they saw fit. The greater Departmental control that was introduced as part of the Universal National System was to greatly change the relationship between the universities and the government.

At the same time larger institutions were being created through mergers the Government promoted the development of “top-down” corporate style of management and the replacement of “collegial” forms of governance in the universities with a (Bessant 1993, 1996). Some have argued that this process has contributed to not only eroding important benefits of collegial decision making but has also: “contributed to loss of morale through a greatly devalued sense of professional autonomy and commitment in the universities (Currie 1997; Smart 1991, 1997).

In terms of the funding of higher education institutions the Unified National System has seen a number of changes. Under the Unified National System institutions are funded triennially and on the basis determined by their respective educational profiles rather than by institutional title. Resources for research are granted on a competitive basis throughout the higher educational system according to institutional performance. From 1989 a single operating grant applies to an agreed education profile, which replaced the separate grants for general recurrent, equipment,

minor works, and special research grants. Institutions are funded therefore according to what they do rather than by their arbitrary title. A relative funding model has been developed to access institutions relative funding position based on teaching and research activities. Funds are given according to disciplines, enrolments and level of study and a component is given according to an institutions' research output. In addition to the research component of operating grants there are government targeted research funds available on a competitive basis on the recommendation of the Australian Research Council.

The results of these funding arrangements are that under the Unified National System research is emphasised at the expense of undergraduate teaching, full-time students make more economic sense to institutions than part time students; diploma courses are discouraged, and traditional academic qualifications rather than industry experience are becoming more important. In a system where institutional and professional status is derived from research there is little incentive for academic staff to concentrate on quality teaching. In the old college sector staff could choose to specialise in teaching, however today staff from the old college sector no longer have this luxury. The pecking order amongst the institutions of the Unified National System and relative funding is determined by the quality of its staff and their scholarly work, as it was previously in the university sector. Hence there has been a determined effort in the various institutions, which were part of the former college sector to enhance their research potential. The National Staff Development Fund has spent hundreds of thousands of dollars to enable staff to become researchers and attract grants. Furthermore staff within the old university sector are under increasing pressure to publish in quality journals in order to maintain the research profile of their universities in order to maintain funding.

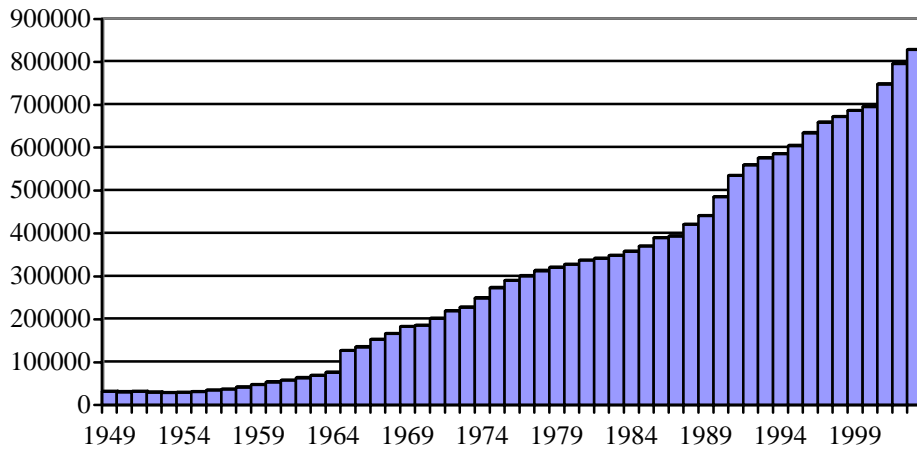
Finally the Unified National System has led to an increased amount of competition between the various universities. Competition for research funds existed before 1988 but has been intensified under the unified system. Besides competition for research funds the universities have been forced to compete with each other for other sources of funds. The universities have attempted to attract more fee-paying students from overseas as well as sell consulting and technical services. The proportion of students in Australian universities that come from overseas rose substantially during the 1990s, which has contributed to the large increase in university funding from fees

(Table 1). Between 1994 and 2001 over one half of the growth of enrolment in Australian universities has come from overseas student (their proportion rising from 6.9 per cent to 16.5 per cent) By the late 1990s around one half of university funding came from government sources a level not seen since the late 1940s.

Conclusion

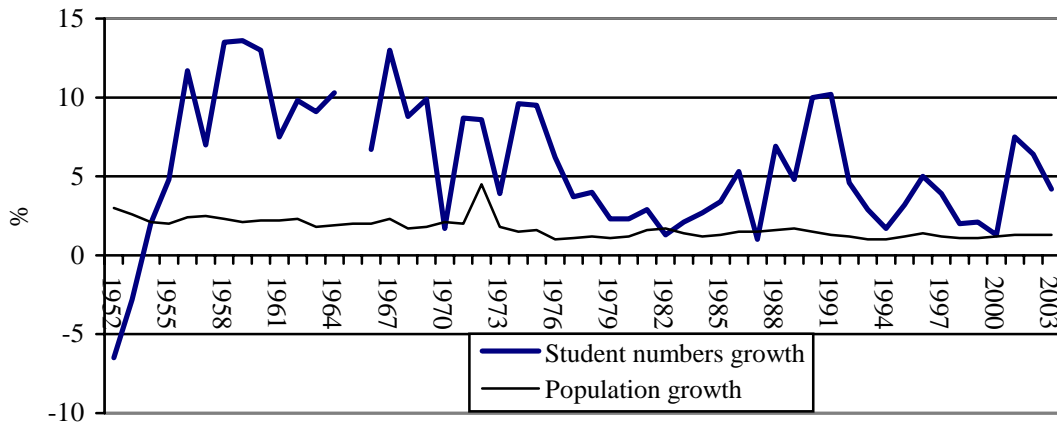
Australian universities have been subject to many external forces throughout their life. In particular they were subject to the vagaries of public policy makers at both the State and Commonwealth government levels and the changing demands of students, commerce and industry. Australian universities today are vastly different institutions than they were fifty years ago. In particular they are much larger, have a greater diversity of course offerings, and a much greater proportion of overseas and female students. Their dependence on government funding has declined over the past ten years and looks similar to what existed in the 1950s. Despite the continued importance of government funding and policy the changes in the nature of the universities can only be understood by recognising that they are heavily influenced by the demands of students and industry. The growth in demand by the Australian populace and business has probably had the greatest impact on the nature of the universities themselves, driving their growth and influencing the nature of the courses that they offer.

Figure 1: Student enrolments in Australian higher education



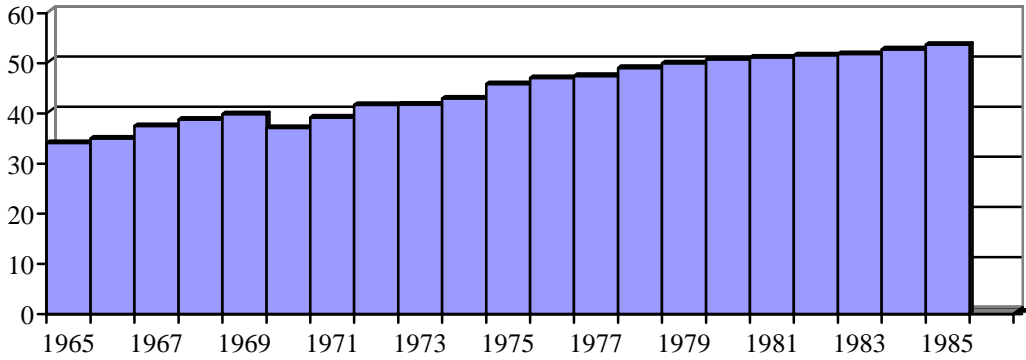
Source: *Official yearbook of the Commonwealth of Australia. Selected university statistics. Selected higher education student statistics.*

Figure 2: Australian population and higher education student enrolment growth



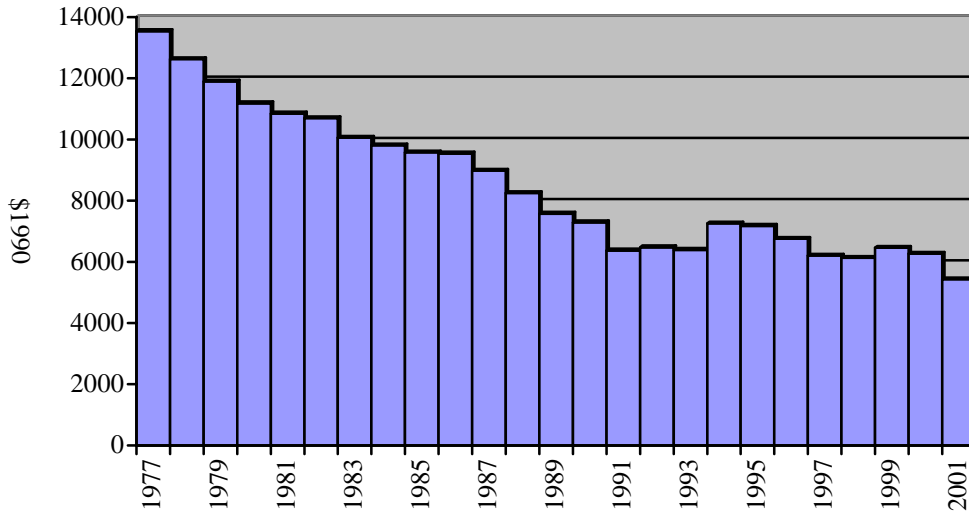
Source: *Official yearbook of the Commonwealth of Australia. Selected university statistics. Selected higher education student statistics.*

Figure 3: Proportion of higher education enrolments in colleges of advanced education



Source: Selected university statistics. Selected advanced education statistics.

Figure 4: Real government expenditure per EFTS \$1990



Source: Expenditure on education. Consumer price index. Selected university statistics. Selected higher education statistics .

Table 1: Australian higher education funding

| % | 1939 | 1957 | 1964 | 1979 | 1986 | 1994 | 1999 | 2001 |
|--------------|------|------|------|------|------|------|------|------|
| Commonwealth | - | 31.3 | 42.1 | 89.2 | 84.5 | 60.2 | 48.0 | 39.0 |
| State | 45.0 | 38.9 | 36.4 | 0.7 | 2.8 | 2.0 | 1.1 | 1.8 |
| Fees | 31.8 | 13.0 | 9.6 | 2.0 | 2.0 | 19.7 | 36.7 | 37.2 |
| Other | 23.2 | 16.8 | 11.9 | 8.1 | 10.7 | 18.1 | 14.2 | 22.0 |

Source: *Official yearbook of the Commonwealth of Australia. Selected higher education statistics. Selected university statistics. Selected advanced education statistics. Expenditure on education.*

Table 2: Australian higher education statistics

| | 1939 | 1957 | 1964 | 1974 | 1984 | 1994 | 1999 | 2001 |
|---|-------|-------|--------|--------|--------|--------|--------|---------|
| Government HE expenditure % of GDP | na | 0.22 | 0.53 | 0.78 | 0.90 | 0.87 | 0.74 | 0.66 |
| HE expenditure % of Government expenditure | 0.40 | 0.83 | 2.11 | 2.77 | 2.53 | 2.42 | 2.15 | 2.20 |
| Proportion of Australian population enrolled in HE % | 0.1 | 0.4 | 0.7 | 1.8 | 2.3 | 3.3 | 3.6 | 3.3 |
| Proportion of students in post-graduate courses | 1.3 | 3.5 | 7.1 | 6.1 | 7.2 | 11.7 | 13.5 | 21.8 |
| Number of overseas students | na | 2,352 | 4,502 | 6,999 | 12,000 | 40,494 | 83,111 | 123,284 |
| Proportion of students from overseas | na | 6.4 | 5.9 | 2.7 | 3.4 | 6.9 | 12.1 | 16.5 |
| Total HE government expenditure \$1991 m | 13 | 201 | 699 | 1,788 | 2,717 | 3,377 | 3,280 | 3,139 |
| Total HE government expenditure per EFTS \$1990 | 907 | 6,604 | 11,605 | 8,792 | 9,808 | 7,259 | 6,136 | 5,337 |
| Number of universities | 6 | 9 | 10 | 18 | 19 | 36 | 37 | 37 |
| Average size | 2,388 | 4,091 | 7,619 | 7,906 | 9,047 | 16,167 | 18,548 | |
| Number of CAEs | na | na | Na | 76 | 71 | na | Na | Na |
| Average size - students | na | na | Na | 1,410 | 2,617 | na | na | Na |
| Number of higher education institutions | 6 | 9 | 10 | 94 | 90 | 43 | 44 | 44 |
| Average size – students | 2,388 | 4,091 | 7,619 | 2,655 | 3,957 | 10,542 | 15,597 | |
| Academic staff – higher education: full time equivalent | 1,282 | 3,128 | 8,596 | 18,473 | 24,706 | 30,276 | 29,748 | 30,299 |
| Student to academic staff ratio | 11.2 | 9.7 | 7.0 | 11.0 | 11.2 | 15.4 | 18.4 | 19.4 |

Source: *Official yearbook of the Commonwealth of Australia. Selected higher education statistics. Selected university statistics. Selected advanced education statistics. Expenditure on education. Consumer price index.*

Table 3: Australian higher education field of study

| | 1964 | 1974 | 1984 | 1989 | 1994 | 1999 |
|---------------------------------|--------|---------|---------|---------|---------|---------|
| Agriculture-horticulture | 2.1 | 1.6 | 1.8 | 1.7 | 2.0 | 1.7 |
| Architecture-building | 2.8 | 2.7 | 2.2 | 2.2 | 2.2 | 2.3 |
| Arts-humanities-social sciences | 36.2* | 22.9 | 25.0 | 23.1 | 22.7 | 24.5 |
| Business and economics | 11.6 | 15.7 | 18.3 | 20.8 | 20.9 | 26.1 |
| Education | - | 25.6 | 20.6 | 16.5 | 12.4 | 10.6 |
| Engineering-surveying | 8.2 | 9.8 | 7.9 | 7.5 | 8.1 | 7.4 |
| Health | 12.2 | 5.9 | 5.7 | 10.9 | 12.1 | 11.3 |
| Law | 5.0 | 2.9 | 2.8 | 2.7 | 3.6 | 4.9 |
| Science | 20.6 | 12.4 | 14.2 | 13.8 | 14.7 | 16.2 |
| Veterinary science | 1.3 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 |
| | | | | | | |
| Total students | 62,936 | 264,968 | 357,373 | 441,074 | 585,435 | 686,267 |
| | | | | | | |

Source: *Official yearbook of the Commonwealth of Australia. Selected higher education statistics. Selected university statistics. Selected advanced education statistics.*

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