The Higher Education Contribution Scheme

In July 1987, when John Dawkins became Australia's Federal Minister for Education, he faced a higher education sector under intense pressure to expand. There were large waiting lists for places at universities, but the sector could not afford to enrol additional students. Pressure to expand was also coming from international comparisons which showed a substantial gap between the rate of output of tertiary graduates in Australia and that of other industrialised countries. Significant additional funding for universities from the Commonwealth was unlikely, due to tightness in the federal budget. Universities were not permitted to charge students fees. In December, Dawkins established a committee, chaired by former New South Wales Premier, Neville Wran, to find a solution to the higher education sector's financial challenges.

The funding gap in the higher education system

The 1970s and 1980s were a time of rapid growth in enrolments in the Australian higher education sector.[1] In 1975 there were 270,000 students enrolled. By 1987 the total had increased almost 50 percent to 394,000 (see *Exhibit 1*). The sector's 65 universities and colleges were graduating about 78,000 students a year. Only eight years earlier, this figure had been 66,000. University graduates as a proportion of the population had risen from 8 percent in 1981 to around 10 percent in 1986.[2]

Despite the growth of the sector, Australia was not matching the performance of other OECD countries in delivering tertiary education (see *Exhibit 2*). Between 10 and 11 percent of Australians aged 18–24 were enrolled in higher education institutions in 1987, compared with 13 to 15 percent of Americans and Canadians of this age.[3]

This case was written by Tim Watts, Australia and New Zealand School of Government, for Professor Glenn Withers, Australian National University. It has been prepared as a basis for class discussion rather than to illustrate either effective or ineffective handling of a managerial situation. The assistance of Meredith Edwards, David Phillips, Mike Gallagher, Bruce Chapman and Chris Robinson in preparing this case is gratefully acknowledged, but responsibility for the accuracy of the version of events presented here lies with the author.

[1] J. S. Dawkins, *Higher Education: A Policy Discussion Paper* (Canberra, AGPS, 1987), 5.
[2] Dawkins, 10.
[3] Dawkins, 9.

Comparative statistics on the proportion of the population qualified to first degree level suggested that Australia's rate was equal to that of the United Kingdom and Germany, but only about 60 percent of that in Japan, the United States and Canada.[4]

Australia's universities were also not meeting the increasing demand for places. Official estimates put the total number of qualified applicants who were not accepted by a university in 1987 at around 20,000.[5] The majority of these unsuccessful applicants were school leavers aged 17–19. According to Bruce Chapman, an economist from the Australian National University and a consultant to the Minister at the time, these waiting lists were very sensitive politically: "The headlines were all about kids missing out on university and unfairly being denied an opportunity. Parents weren't happy and it was becoming a major issue for Dawkins."

To explore the extent of the challenges confronting the higher education system, Dawkins' office produced a discussion paper which was released in December 1987. The paper outlined the Government's objective of bolstering national competitiveness in the increasingly knowledge-based global economy by increasing the number of university-educated workers. Forecasts were made about the extent to which the higher education system would need to grow in the coming decade. Taking account of projected demographic and labour market changes, and the Government's objective, the paper argued that Australia would need to be producing 125,000 university graduates a year by 2001. Additional funding requirements to support this rate were projected to be 30 to 40 percent above the amount allocated to higher education in the 1987 budget (see *Exhibit 3*).

Dawkins' discussion paper also pointed to a backlog of capital expenditure on existing buildings and equipment that had not been undertaken. It also suggested that spending on new technologies to improve the quality of education in the sector was not occurring due to funds shortages.[6] An estimate by Professor Peter Karmel, former vice-chancellor of the Australian National University, indicated that the additional capital investment needed to increase the sector's enrolment capacity by the amount targeted in the discussion paper would be $1.4 billion.[7]

Commonwealth funding to the higher education sector was around $2.5 billion in 1987. Since 1975, Federal funding to the sector as a proportion of GDP had fallen from 1.4 percent to 1 percent. The rise in total enrolments meant that funding per student had fallen by 23 percent in that time.[8]

In 1986, before Dawkins had taken on the education portfolio, there had been a proposal to Cabinet from the Finance Minister, Peter Walsh, to introduce fees at universities. This had been rejected on the grounds that it would discourage people from lower income households undertaking tertiary education. Walsh was able to get through Cabinet a $250 per year upfront fee on students called the Higher Education Administration Charge (HEAC). It was set at a level roughly equivalent to the

[4] Dawkins, 10.
[5] Dawkins, 15.
[6] Dawkins, 79.
[7] P Karmel, "Analysis of Specific Funding and Resource Allocation Proposals," in *Australian Higher Education Reconstructed?* eds. G. Harman and V. L. Meek (Sydney, DAHES, 1988), 55. Note that dollar amounts used in this case are in Australian dollars.
[8] M. Edwards et al., *Social Policy, Public Policy* (Sydney, Allen & Unwin, 2001), 100.

administrative costs per student borne by universities. HEAC only generated $95 million in revenue, a minor amount in the context of the total annual budget of the sector. This would only increase if student numbers grew. Another shortcoming was that institutions were allocated just 10 percent of the revenue generated by HEAC.

After the first year of HEAC, enrolment data revealed that the number of female students and part-time students had dropped. This outcome confirmed the views of those such as Susan Ryan, the former Minister for Education, who had argued against the introduction of upfront charges on grounds that poorer members of the community would be discouraged from entering university.

The Wran Committee

Quickly following on from the release of his discussion paper, Dawkins established a committee to examine new funding options. He issued the following terms of reference:

> "1. The Government is committed to expanding the capacity and effectiveness of the higher education sector and to improving access to higher education for groups that are currently under-represented. This goal has significant funding implications, as outlined in the Policy Discussion Paper on higher education. Given current and likely future budgetary circumstances, the Government believes that it is necessary to consider sources of funding involving the direct beneficiaries of higher education.
>
> 2. The Committee should develop options and make recommendations for possible schemes of funding which could involve contributions from higher education students, graduates, their parents and employers. In developing options, the Committee should have regard to the social and educational consequences of the schemes under examination."[9]

Dawkins set the Committee a tight timeframe. It was to report back in only four months, by March 1988.

Former NSW Premier, Neville Wran, was chosen as chair of the Committee. The other members were: Mike Gallagher, a senior public servant who had worked previously on higher education funding issues; Professor Bob Gregory, a respected economist from the Australian National University; and Meredith Edwards, an executive from the Department of Social Security with a strong social science academic background and whose experience in the welfare system meant she was well placed to assess the impact of any changes on lower income students.

According to Edwards, Dawkins was mindful of the opposition to student fees within his own party when he selected the members of the Committee: "The Labor party had abolished university fees under Gough Whitlam in 1974. It was one of the most remembered achievements of the party and it was still explicit in their platform. The ideological commitment to free university education was very strong." According to Gallagher, Dawkins made sure the committee contained people who would have

[9] Dawkins, 87.

credibility with those in the party who were most strongly opposed to charges on students.

A small group of public servants from the Department of Education was seconded to serve as a secretariat to the Committee. The Committee met once every couple of weeks, with the secretariat completing research and drafting reports during the intervening periods. Several members of the Minister's staff, including consultant Bruce Chapman and private secretary David Phillips, regularly sat in on meetings.

The beneficiaries of the higher education system

In the first weeks of its deliberations, the Wran Committee focused on understanding the major beneficiaries of higher education and determining how to fairly apportion funding responsibility. Three major categories of beneficiary were identified: the students, society at large, and the business sector which employed graduates.

According to Mike Gallagher, taxpayers were already funding universities and so the Committee quickly agreed that the community as a whole was already paying for the benefits it derived from the higher education system in terms of vibrancy of the arts and culture, scientific advancement, more informed voters and so on.

Benefits to employers from the higher education system were difficult to quantify, observed Chris Robinson, one of the staff of the Committee secretariat. Hiring a graduate means a business benefits from additional productivity and specialised skills. But how should the extra contribution an individual graduate makes as a result of their tertiary qualifications be measured? "We could find no widely accepted methodology," he said. It was difficult to value the extra contribution that an employee's tertiary education made to a firm's productivity. As well, people often moved around from employer to employer a lot, so pinning down how much a particular employer gains was not easy. There was the further complication that companies already contribute to some extent to general government revenue through corporate taxes.

The Committee considered several proposals for compulsory and voluntary contributions from business to higher education. One option assessed was a universal surcharge on company tax, which would be paid into a special trust fund for higher education purposes. However, the Committee concluded this would extract payments from the many firms that did not hire graduates. There would need to be a very costly administrative effort to more accurately target the levy on firms employing graduates. If more precise targeting were achieved, the levy would become a major disincentive to employers to hire graduates; an undesirable outcome.

Other options involving voluntary contributions to the higher education sector from employers were examined. These included tax incentives for collaborative arrangements for research projects, sponsorships and endowments. Assistance from firms for employees to take tertiary courses was also considered. The Committee concluded that the Government had limited capacity to influence outcomes in these areas, and that they did not offer the prospect of significant revenue gains for the sector.

Mike Gallagher observed: “Some form of employer contribution was an important issue to me philosophically. I raised it at every meeting, but could never get it up. We didn’t know how to do it.”

Bruce Chapman argued to the Committee that students not employers had to be the focus: “Assuming the labour market functions pretty well, then companies are already paying for the benefit they receive from higher education with the high salaries they offer to graduates.”

He felt that the lifetime earnings of university graduates were significantly higher than those of non-tertiary educated workers, because employers paid a premium for graduates. This could be seen as the employers’ contribution to the costs of higher education. “The private rates of return from higher education are the same in every country you look at, whether it’s Canada, the United Kingdom, China or Ethiopia. Even if you adjust for other factors – natural ability, self-selection – it’s still there. Investing in higher education is just about the best thing someone can do for themselves in a material sense” (see *Exhibit 4*). Chapman insisted that this evidence showed it was individual tertiary graduates, not employers, who derived economic value from the higher education system.

The difficulties with determining a fair contribution from industry meant that the Committee focused its analysis on students. According to Chris Robinson: “After one or two meetings, all our efforts were devoted to options to generate revenue from students and how to do that fairly.”

Access and equity issues

John Dawkins had previously been Minister for Trade and, according to Bruce Chapman, in that role had become convinced that universities were a key driver of Australia’s competitiveness in the global economy. Dawkins thought a better educated workforce that was more comfortable with technology would increase national productivity and build greater prosperity in the future.

“Technological advances happen because someone takes a conceptual notion and applies it to a new environment,” observed Chapman. “That’s where 95 percent of productivity increases come from. The true economic return from innovation comes from people adopting and adapting new technologies, and universities drive this. One study we looked at was about farmers and new fertiliser technologies. The ones with a university degree were the quickest to try the new fertilisers and to use them properly. The ones who hadn’t been to uni took months to try them and then couldn’t make them work on the land.”

For Dawkins, a stronger economic growth required that more people be enticed into higher education. If this were to occur, universities had to expand their enrolment from the current elite minority to a broader mass enrolment profile.

In addition, there was an explicit goal in the Labor party platform to expand access to universities to those lower- and middle-income families who were under-represented in enrolments. Meredith Edwards noted that although university entrance requirements were based on academic performance and did not require the payment of fees, survey data suggested that the student population was mainly from better-off families: “Clearly, there were other critical factors at the high school stage that determined whether you were going to university or not.”

According to Mike Gallagher, Neville Wran summed this objective up in his opening remarks at the first Committee meeting: “Wran came straight out and said that the problem was that sons and daughters of the wealthy North Shore of Sydney were the ones getting to go to university for free, while the sons and daughters of Sydney’s west – who never got to see the inside of a university – were the ones paying for it. This was a kind of middle class welfare and it had to change.”

If the students were going to be asked to contribute the additional revenue needed to expand the sector’s capacity, then the Committee had to find a way to source their contribution that did not discourage participation and lower enrolments. This would be very challenging for several reasons. The first was that for more than a decade university education had been free of charges. Instituting fees would almost certainly be perceived as a turn off for some considering enrolment, especially those from lower income households. According to David Phillips: “The prevailing ethos was a no fees policy was a good thing in equity terms. It enabled the sons and daughters of the less well off to go to university. The assumption therefore was that it couldn’t be equitable to put fees back on.”

The second reason was that while it was generally accepted that attending university was a positive experience for students, the notion that degrees were an economically valuable commodity was a controversial one. Phillips noted: “I think most people understood that it was a path to a well paid job. But they weren’t making the link that it was therefore fair for students to make a contribution to costs.”

Many academics and administrators within the tertiary education sector objected to any suggestion that they were in the business of providing students with a ticket to a big salary in industry. “There was a huge debate going on in the sector at the time about instrumentalism in education,” observed Mike Gallagher:

> “Education was thought to be an intrinsic good that was supposed to develop people in a rounded way for the good of civilisation. Universities didn’t see themselves as vocational. The concept of measurable skills, performance indicators – all of that was ‘verboten’. Economists were talking about the supply of graduates to the labour market and specific manpower requirements for the health of the economy but it wasn’t penetrating the mainstream of the higher education sector. All this was spurned by the university vice-chancellors. They thought if you tried to apply competencies to higher education you would narrow the curriculum. People would come out with what was already known but would not have the skills to explore what was unknown. The view was all this was going to weaken the sector.”

According to Gallagher, although the data indicated that there were strong private returns from going to university, this was not widely understood in the community. The Committee could not assume that students and their parents would view university fees as a worthwhile investment.

In light of these issues, the Committee settled upon two key criteria against which it would assess any scheme for raising individual contributions from students. These were:

> "1. The impact of any scheme on overall student demand for higher education.
>
> 2. The effect of any scheme on access to higher education by students from financially and other disadvantaged backgrounds."[10]

Options for student contributions to higher education

The Wran Committee asked the secretariat to review the different types of student funding schemes in operation around the world and to look at any new models being proposed in the academic literature.

Fees schemes of various types were the most common in industrialised countries. Such schemes involved a standard fee levied on the enrolled student by the government or by the institution, with a range of variations according to:

- the differences in cost between courses;
- the level of the course (so that students in diploma courses pay less than those in degree courses); or
- the benefits derived from different courses, based on some estimate of the future earnings of the graduate (so that fees for law degrees would be proportionately higher than fees for teaching degrees).

Exemptions from fees could be allowed for students from lower income families with eligibility determined by a means test of income and assets. Alternatively, the fee level could be varied according to capacity to pay. The top 20 percent of students based on the means test would pay the highest fee. The next 20 percent of students would pay a slightly lower fee, with each cohort paying a smaller and smaller amount. Scholarships for high academic performance or for indigenous students could be made available to exempt certain students from fees.

Research from North America suggested that fees schemes had a negative impact on participation rates for poorer students. According to Chris Robinson: "Any form of upfront fees appeared to block out a lot of people from the system."

Meredith Edwards observed she thought means testing was an inefficient way to promote equity: "I was particularly concerned about women with a husband who was wealthy enough to pay the fees but wouldn't pay because they didn't care for universities. I'd done some research on the way couples manage their household finances and thought this would be quite common. These women would not get through the means test for exemption and would be excluded because of the fees." She also argued this applied to some families where parents were unwilling to share their wealth to fund their children's tertiary education.

[10] Committee for Higher Education Funding, *Report of the Committee for Higher Education Funding* (Canberra, AGPS, 1988), 21.

Politically, any fees scheme was going to face strong opposition in the Labor party. According to David Phillips: “Fees were going to be almost impossible to sell to the party and to caucus.”

Fees with loans

Introducing some form of loans system alongside a fees structure was another option considered. Countries like the United States and Canada had operated such loans schemes for some time. The government could subsidise the provision of funds to university students or their parents by commercial lenders, with discounted rates of interest and/or government guarantees for borrowers without security for their loans. Alternatively, the government could itself operate and finance a regime by which students could delay their fees payments until graduation and employment.

Bruce Chapman argued against the involvement of commercial banks:

> “This is a capital market that doesn’t work. For the lender there is no collateral and a great deal of risk and uncertainty. Who knows if the student going to be good at this stuff? They might not graduate. They might be one of those who don’t get a good job after university. What happens if demand for these skills falls? You just don’t know. If you offer a government guaranteed bank loan, which is what most countries do, you cover the risk to the lender so the bank is okay. What’s more they don’t have to chase the students if they don’t pay – the government will do that for them. But these schemes don’t cover the risk to the debtor. It’s a very expensive thing for a graduate to default on a loan payment. It mucks up their credit record for years and so they can’t borrow for a house or anything else later in their lives.”

“I thought it was very important that we understood the extent to which students were debt averse,” observed Gallagher. “I could imagine some students, especially those from poor families, being reluctant to go into any debt, even if it was a reasonable thing to do. But the research on this wasn’t that strong.”

Evidence from the United States suggested that the default rates in student loans schemes were extremely high: up to 9 percent of all students. There were also very high administration and legal costs for the government.

A graduate tax

One of the Committee members, Professor Bob Gregory, was in favour of a graduate tax. He suggested that a surcharge over and above the basic income tax rate could be charged to all who received a degree from an Australian university. A proportion of the graduate’s annual income – perhaps 1 or 2 percent – could be added to their taxable income and would continue to be payable throughout their working lifetime. Such a tax could be income contingent, with the tax applying only when the graduate’s income had exceeded a set level. The unemployed and those who did not enter the workforce would not pay. One variation could be to alter the progressive income tax rate scale for graduates in a way that only the top few income bands paid the tax. Another could be to allow the tax surcharge to be applied to the income of the parent or spouse if the student was dependent.

According to Chapman, Gregory liked the fact that a graduate tax neatly captured the demonstrated link between university education and higher average incomes. He also thought that it could generate a large amount of revenue without too significantly distorting individual choices. For each student, it was only an additional 1 or 2 percent. However, when the graduate population as a whole was considered, this was a substantial stream of income.

Edwards wasn't convinced. "Lifetime tax surcharges didn't really seem fair to me," she observed. "Yes, you receive a benefit when you attend university but it doesn't mean you should be paying for it for life. A graduate tax of this kind doesn't relate back to the cost of your degree at all."

Gallagher remembered they also discussed the example of Mick Jagger, who lasted one year at university before dropping out to make millions as a musician: "A graduate tax wouldn't get a cent off him because he only made it to year one of his degree."

Income contingent tax debits

A new type of scheme, devised by Bruce Chapman, gradually began to get the Committee's attention.

Chapman's idea was that students be charged a fee for every semester of university they undertook. However, the government would provide all students with access to an interest-free loan to cover these fees, which was only repaid when their income reached a certain level. When this occurred, repayments would be made through the tax system.

Initially there was some scepticism from the Australian Taxation Office (ATO) when it was approached to confirm the feasibility of the plan. Bruce Chapman observed:

> "I argued (to the ATO) that a charge for higher education was justified. I explained the merits of collecting such a charge depending on graduates' future incomes and pushed that for these things to happen, the ATO was the natural (the only) collection institution available. The ATO, I think I said, had the unique advantages of knowing what graduates' incomes were and being able to easily make the relevant deductions from salaries. I probably said something like: 'This is a great opportunity for path-breaking policy reform.'… They said: 'The Tax Office collects taxes, not debts. This is a basic principle'. Their raising the issue of 'principle' seemed to be the end of the conversation, because a 'principle' by definition is something that can never be compromised."[11]

However, there was some precedent for the ATO's involvement in debt collection. At the Department of Social Security, Meredith Edwards had previously been instrumental in bringing the ATO into the process of collecting child-support payments from non-custodial parents. Under that scheme, payees had their child support payments withheld from their wage and salary payments along with their income tax. When this example was raised, the Tax Office's initial caution about being involved in collecting repayments from higher education graduates gave way.

[11] Edwards, 128.

The secretariat's testing of Chapman's scheme showed it met the Committee's criteria on access and equity. There was no upfront fee, so students didn't need savings to start university. It did not require administration of a means testing regime, so it overcame Edwards' concern about excluding women whose husband or parents were rich but unwilling to pay.

It also seemed to be an efficient generator of revenue. There was no "Mick Jagger" problem: millionaire drop-outs still paid fees for the time they spent at university. There would be few default problems because the Taxation Office had reliable information on every graduate's earnings.

"In every meeting when we were looking at the options, Bruce would keep bringing up his model. It seemed to solve all the problems of the other options," observed Gallagher.

There was no comparable scheme in operation anywhere in the world. According to Chapman: "No other countries had done it, so of course the first thing people asked was how I could be sure it would work? Well, I couldn't be sure, but I was pretty tenacious. I'd done a lot of work on it and it seemed like such a good idea."

Neville Wran and the rest of the Committee saw the strengths in Chapman's proposal, but the fine details of its operation would clearly make a big difference to its impact. At what income level would the repayments start? How rapidly would the fees have to be paid back? How much would they be? How would inflation be factored in? Could students pay upfront if they wished? Would any groups be exempt? What happened if a student died or left the country?

Working through the details

Just what proportion of the cost of their courses students should pay in fees was a critical question. The secretariat was asked to quantify the benefits to individuals and to society from the higher education system, and to use this to set the contribution level for students. The data was too imprecise for accurate calculations. However, it did find that a ratio of between 15 and 30 percent was the level charged at public universities in other developed economies.

According to Chapman, setting the fee level would in effect create a price signal for degrees, so it was also necessary to consider what was the optimal amount of private investment in higher education: "You don't want a 100 percent subsidy, because the result will be students over-investing in higher education. You also don't want a system where there is no subsidy, because there will be an under-investment. The answer was somewhere in the middle where students pay between 0 and 100 percent of the cost. Exactly what percentage? That was the question."

Eventually, the Committee settled on 20 percent of course costs. "20 percent felt like a fair contribution from students," noted Meredith Edwards. "It just seemed about right. There was no precise reason for this level," observed Chapman. 20 percent represented about $4000 a year for a medical student, about $1600 a year for an arts student, and $2800 a year for an engineering student (see *Exhibit 5*).

After some modelling work from Chapman, the Committee concluded that the income level at which repayments should commence was the average weekly earnings for all full-time and part-time wage and salary earners. In 1988, this was equivalent to $21,500 a year. As soon as a graduate's income rose above the average, tax debits of 2 percent of income would begin and continue until the higher education fees incurred were repaid. To give some context to this amount, the Committee calculated that repayments would start when a graduate's income put them in the top 37 percent of all wage and salary earners.[12]

"It really was a very gentle option," observed Gallagher. "We thought: how could anyone argue against a fees scheme that you don't have to pay until you're earning more in salary than the average worker? We were very conscious that we had to come up with something that would be seen to be fair. This seemed to fit the bill."

A higher education contribution scheme

On 27 April 1988, the Wran Committee presented its 94 page report to the Minister. It described its proposed solution to the funding problems of the higher education institutions as a "contribution scheme". The word "contribution" was chosen, according to Mike Gallagher, to reinforce the idea that the government and individual students were each paying a share of the costs of university education.

The Committee's report projected that in the first year of the proposed scheme only $45 million would be raised. The second year was expected to bring in just $95 million. It was not until the fifth year of the scheme that revenues over $200 million would be generated. Forecasts in the Minister's earlier discussion paper had indicated that at least $900 million a year in additional funding for the higher education sector would be required by 2001. In the short term, the Committee's favoured model would not provide much respite for the higher education sector's financial woes.

According to Bruce Chapman, he and other members of the Minister's staff were very concerned about this time lag. The Labor government would need to call a new election soon and could be voted out of office before the scheme had begun to generate significant funding. To address this issue, the report briefly highlighted a couple of means of accelerating returns from the scheme. One option was to make it mandatory for students from the wealthiest families to pay fees upfront. Another possibility was to offer a discount to any students who paid upfront. Both variations added more complexity to the scheme and were potentially problematic. It was also unclear how much additional revenue they would raise.

Once the Committee's report was made public, it attracted heavy criticism from students and from academics. Most critics focused on the equity implications of the recommended funding scheme. Some argued that any tuition-fee-based scheme would discourage poorer students. Others suggested that the baby boomer generation, which had enjoyed free university education, were now condemning the next generation of students to a working life weighed down by indebtedness.

[12] *Committee on Higher Education Funding*, 57.

With the debate raging, the Minister now put the proposal before Cabinet for approval. Had the Committee recommended the right option?

Exhibit 1: Students enrolled in the Australian Higher Education System, 1975 to 1987

Number of students enrolled ('000)				
Year	**Full-time**	**Part-time**	**External**	**Total**
1975	171.4	82.0	16.9	270.3
1976	182.7	86.7	18.7	288.1
1977	187.3	90.5	20.4	298.2
1978	184.9	98.6	25.9	309.3
1979	180.4	105.8	30.2	316.4
1980	178.5	114.3	35.4	328.2
1981	178.9	118.4	39.5	336.9
1982	180.6	120.0	40.8	341.4
1983	188.5	119.0	41.1	348.6
1984	195.8	118.3	43.3	357.4
1985	204.3	120.1	45.6	370.0
1986	215.2	125.2	49.5	390.0
1987	234.2	113.8	45.7	393.7

Source: J.S. Dawkins, *Higher Education: A Policy Discussion Paper* (Canberra, AGPS, 1987), 95.

Exhibit 2: International comparison of youth participation in education and training

		Participation rates in school and post-school education and training (%)			
Country	**Year**	**16 year olds**	**17 year olds**	**18 year olds**	**19 year olds**
Australia	1981	77.3	59.2	42.0	37.4
Austria	1981	87.1	83.7	76.5	45.6
Belgium	1982	86.5	75.0	57.0	43.0
Canada	1981	88.6	71.6	42.1	30.0
Denmark	1980	86.0	68.0	61.0	50.0
Finland	1978	87.5	75.4	58.8	34.5
France	1981	83.9	68.9	45.2	30.0
Germany	1981	92.1	89.3	71.5	41.8
Italy	1981	69.1	70.3	51.3	29.4
Japan	1980	94.0	94.0	-	-
Netherlands	1982	97.8	84.7	62.8	43.9
New Zealand	1982	74.4	46.5	32.6	31.2
Portugal	1977	39.2	35.0	34.5	27.8
Spain	1980	53.4	50.1	37.1	27.5
Sweden	1980	87.4	78.4	44.7	23.5
Switzerland	1983	85.9	81.6	73.1	52.8
United Kingdom	1981	68.0	52.8	37.0	28.5
USA	1982	94.3	87.1	54.7	40.9
Unweighted average all countries		84.3	80.1	58.8	41.2
Australia	1986	90.7	67.0	47.0	40.3

Source: J.S. Dawkins, *Higher Education: A Policy Discussion Paper* (Canberra, AGPS, 1987), 108.

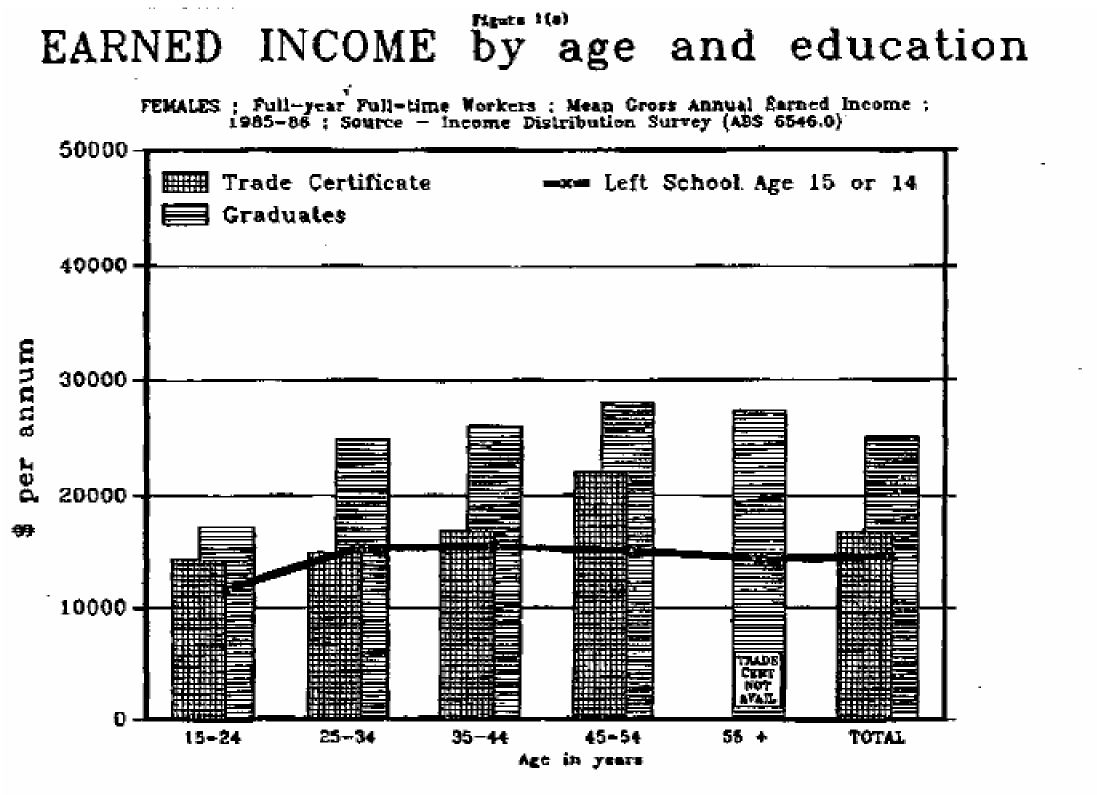
Exhibit 3: The size of the funding gap – projected funding requirements for higher education in 2001

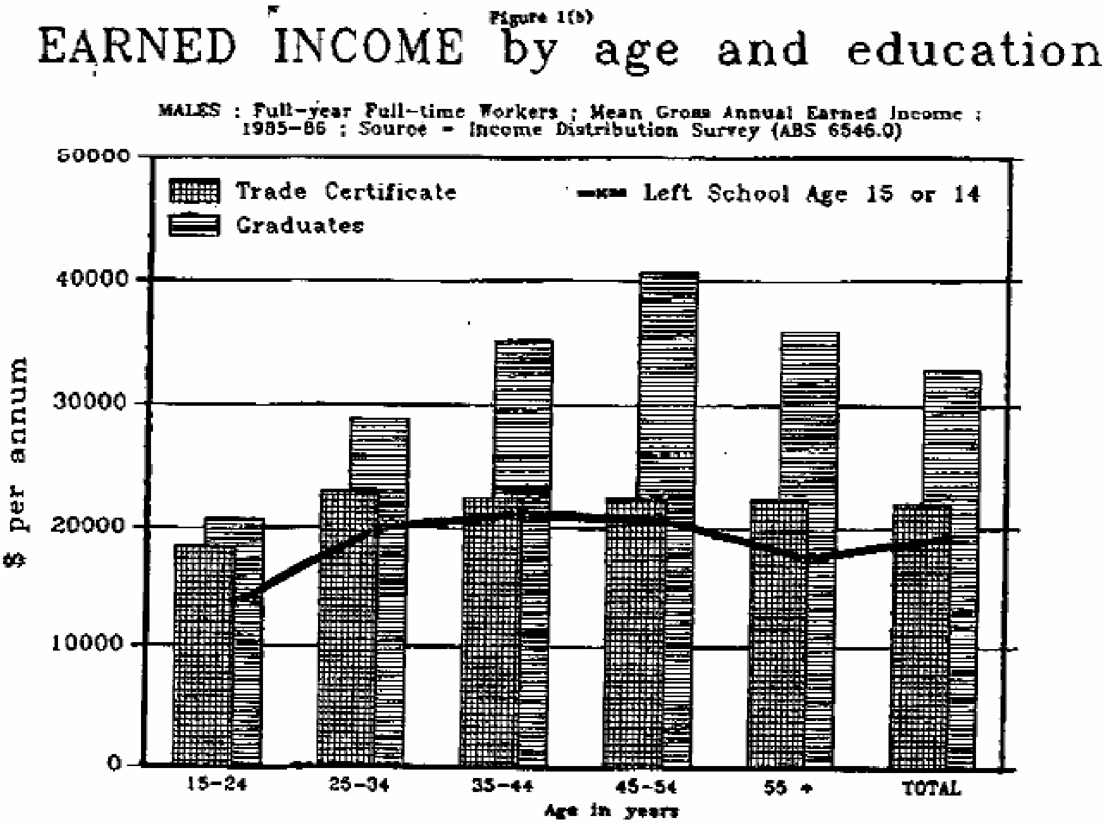
Year	Graduates	Total higher education grants and AUSTUDY[a] payments ($m)	Real increase over 1991 forward estimates[b] ($m)
1991	95,000	3,100	100
1996	110,000	3,700	600
2001	125,000[a]	4,200	1,200

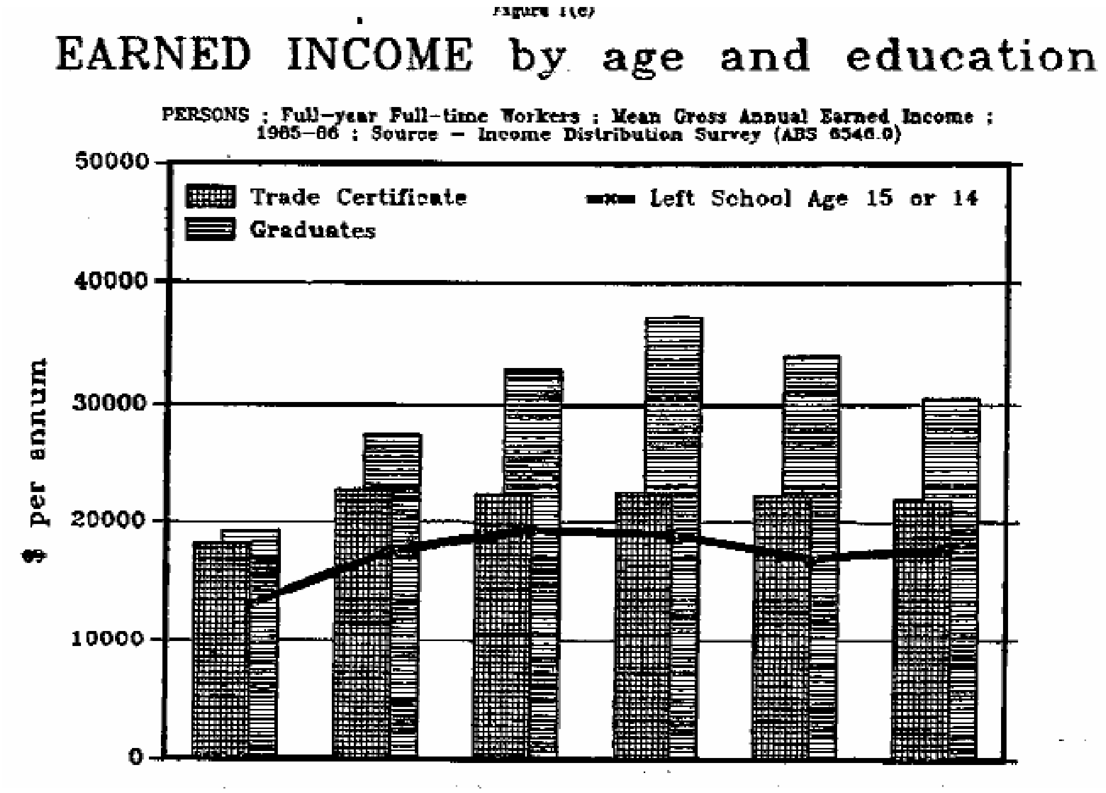
Source: J. S. Dawkins, *Higher Education: A Policy Discussion Paper* (Canberra, AGPS, 1987), 80.

a. 125,000 graduates per year by 2001 was the target nominated by the Minister for Education John Dawkins in his 1987 Green Paper
b. AUSTUDY was a means tested grant to students to assist with living costs

Exhibit 4: Private returns to higher education







Source: Professor Bruce Chapman, ANU, personal communication of unpublished work..

Exhibit 5: Average course costs per student by field of study (1988)

Field of study	Range of average course costs - $
Agriculture and forestry	16,500–21,000
Architecture and building	7,500–9,500
Arts, humanities, social sciences, education, and visual and performing arts	6,500–9,500
Medicine and dentistry	18,000–22,000
Economics, commerce, business administration, business studies, law and legal studies	6,000–7,500
Health sciences and nursing	10,000
Science, applied science, engineering and surveying	11,500–16,000
Veterinary science	25,000

Source: Committee for Higher Education Funding, *Report of the Committee for Higher Education Funding* (Canberra, AGPS, 1988), 54.