DEBATE

Financing New Zealand's Tertiary Education: How Much Subsidy?

Grant M. Scobie and Alex Duncan

The provision and functions of tertiary education in New Zealand have been subjects of public debate for some time. The debate has intensified in the last two years and has more recently focused on the New Zealand government's response to a report of a consultative group set up to examine funding issues. The government recently announced a policy to gradually reduce per capita tuition subsidies over the next five years. But overall government outlays on tuition subsidies, student living allowances and loans are projected to increase, reflecting expected roll growth. As a result, average private contributions to direct tuition costs will increase from about 20 per cent currently to about 25 per cent by 2000.¹

Public concern has been heightened by the belief that New Zealand needs a more highly educated workforce to sustain international competitiveness. Rates of participation in tertiary education are below those in some other countries, and, what is more disturbing, lower levels of educational attainment persist among students from poorer households. Public funding may not be available to support the desired growth in participation. As well, there is concern that training schemes have been funded at a paltry level, although their apparently mediocre performance suggests that the modest funding may be a rational response.

Yet despite the emphasis on the level of participation, it is not clear that this is really the ultimate goal of social policy in tertiary education. One suspects that it is used in the debate as a proxy for what is taken to be a lack of equal opportunity.

The funding of formal tertiary education, in particular, has been at the forefront of the recent debate. There are two issues: how large any state subsidies should be; and how they should be distributed (whether by funding institutions as at present, or

¹ Since these contributions can be financed through a subsidised income-contingent loans, the proportions cited represent the maximum average private contribution to direct tuition costs.

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by providing the support directly to students and their families). This article deals with the first issue and considers the case for extensive tax-funded subsidies to formal higher education.

The present approach to funding is inefficient and inequitable. It fails to serve adequately New Zealand's needs for a flexible, responsive and effective tertiary sector. Many policies relating to accreditation, state ownership, public funding and entry barriers impede the efficient delivery of a diverse range of educational and training services. Above all, the present system continues to channel excessive state subsidies to students from advantaged backgrounds and those preparing for careers in which expected earnings are demonstrably higher than average. Students from less privileged backgrounds remain under-represented at tertiary institutions. Efficiency and fairness would be enhanced by reduced across-the-board subsidies, greater private contributions, the targeting of more resources to the least advantaged and an extended student loan scheme.

Formal tertiary education represents only a part of the investment in human capital that occurs after compulsory schooling. In its broadest sense, tertiary education consists not only of learning in formal settings, such as full-time study at a university, but also informal, self-managed learning and on-job learning. Estimates from the United States indicate that workplace training and development are roughly equivalent in size to the entire elementary, secondary and higher education systems (Carnevale, 1986). In New Zealand, the formal sector still absorbs a significant part of the total state contribution. This may reflect the fact that it is easier to deliver state subsidies through the provision of state-owned institutions, and that, once in existence, these institutions form a powerful political lobby for the perpetuation of the current system.

Debate and Reform

Several reports have considered funding of tertiary education in New Zealand. In 1987 the Watts Committee argued that fees should not be increased. However, it concluded that, should the government wish to increase the portion of the total costs of education programs borne privately, fees should not exceed 20 per cent of tuition costs (excluding an allowance for research) (Watts et al., 1987). The following year Perrings (1988) argued that subsidies should be paid directly to students rather than to institutions, and fees should be set closer to the cost of tuition. According to Perrings, such a system would improve both the choice of students and the responsiveness and efficiency of universities, but need have no impact on the level of state-provided funding. In the same year the Hawke Report argued that New Zealand's system of post-compulsory education at the time was overly centralised and complicated. Its recommendations and a number of related reviews formed the basis of the reforms to the tertiary sector that have been implemented since 1988 (Hawke, 1988).

Most recently, the Ministerial Consultative Group on Funding Growth in Tertiary Education and Training submitted its report to the Minister of Education (MCG, 1994). A majority of the group proposed increases in private contributions but differed over the extent and speed of such a change. Two options were presented. Option A involved a gradual increase in the proportion of private contributions from an

average of about 20 per cent of tuition costs currently to around 25 per cent by 2000. Option B involved an increase in private contributions to reach potentially 50 per cent of course costs by 2000. Both options envisaged that the revenue from additional private contributions would be used to increase the number of funded student places. In addition, Option B proposed greater support for students from disadvantaged backgrounds, including additional resources for pre-school, primary and secondary schools and training programs with low socio-economic catchments.

The New Zealand government has essentially adopted Option A. Per student subsidies are to be reduced by an average of around one percentage point over each of the next five years. Anticipated roll growth, however, is expected to result in addition annual outlays by the 1999 fiscal year of nearly NZ\$64m, comprising an additional \$27.3m on tuition subsidies, \$17.9m on student living allowances and \$18.7m on the non-recoverable portion of student loan advances.²

Wider economic reforms implemented since the mid-1980s have had a significant effect on the tertiary sector. In the past, distorted labour markets compressed margins for skills and experience. The returns to investment in education were reduced by labour-market policies. The adverse incentive effects for training and education created by these policies were in part offset by the heavy subsidies paid by the state to the formal sector. Greater labour-market flexibility flowing from restructuring and new labour legislation appears to have resulted in increased returns to skills and education.

These changes put pressure on a highly subsidised tertiary sector. Participation of 18-24-year-olds in formal, government-funded post-compulsory education (including short-term training programs) increased from 20 per cent in 1985 to 31 per cent in 1993. Since 1990, enrolments in tertiary institutions have increased by an average of 7.5 per cent a year, compared with an average annual rate of increase of 2-3 per cent in the 15 years to 1989. Between 1982 and 1992, funded tuition places increased by 68,000 or 102 per cent (MCG, 1994:69).

The government gradually reduced real per student tuition subsidies between 1990 and 1994. But roll growth increased nominal tuition subsidies to formal tertiary education from around \$1 billion in 1990/91 to a total of about \$1.1 billion in 1994/95 (excluding student loan advances and living allowances). The state's contribution to growth in tertiary numbers has largely been financed by an expansion in the income-contingent student loans scheme. The student loans scheme was introduced in the 1992 academic year. Student loans advanced more than doubled between 1991/92 (\$168m) and 1993/94 (\$354m).

Current Structure and Funding

Present tuition assistance is targeted primarily at students undertaking formal courses at state institutions. Whereas \$1.1 billion is currently spent annually on tuition subsi-

² The non-recoverable portion of loan advances includes interest write-offs and subsidy, administrative costs of the scheme and so on. The recoverable portion of loan advances in 1999 is projected to be \$74.6m.

dies to students at universities, polytechnics and colleges of education, around \$250m is devoted to training programs and support of on-job training.

Tuition subsidies for formal tertiary courses are allocated among institutions according to student numbers. Institutions are mostly free to allocate funding received among courses as they wish. The distribution of assistance among courses is highly variable; a medical student, for example, attracts nearly four times the funding of an arts student. Subsidies for formal tertiary tuition are provided almost exclusively to state entities; in 1994, only \$4.9m was provided as tuition subsidies to students attending private training establishments. Students from higher socio-economic backgrounds are disproportionately represented in formal tertiary courses. For example, despite the fact that the upper threshold for entitlement to means-tested student allowances is substantially higher than the median household income, only 43 per cent of full-time students received allowances in 1993. The disproportionate representation of students from higher-income backgrounds in New Zealand is typical of many other countries, including Australia and the United Kingdom (Commission on Social Justice, 1994).

Tuition subsidies for employment-related courses are far more evenly spread among private and state providers than those for formal tertiary education courses. Private providers receive about half of the funding for training programs; state-owned polytechnics receive the remainder. Access to employment-related courses is tightly rationed. An individual over the age of 19 must be unemployed for six months or more to be eligible for such training. Unsurprisingly, and in contrast to formal tertiary education, trainees from disadvantaged backgrounds dominate in training programs.

Even with restrictive eligibility criteria, it is estimated that state-funded training programs cater for about 10 per cent of eligible applicants (MCG, 1994). Many people, in effect, fail to qualify for state-supported tuition assistance because they cannot satisfy the criteria for entry into training programs or formal tuition courses. Many of these people are likely to have social and educational backgrounds that leave them poorly suited to participate fully in the community or workforce.

Arguments for State Funding

Why should the state subsidise tertiary education? Three arguments lie at heart of discussions on the justification for state subsidies. They are: that access to tertiary education is a right; that tertiary education produces benefits that are captured by the community at large; and that state funding is required to advance the goal of equity or fairness.

Tertiary education as a right. The principal policy prescription flowing from the belief that everyone has a right to tertiary education is that the state should make tertiary education generally available at no more than a low cost. Advocates of this position seldom indicate the extent to which the state should meet the costs of a person's education, including their forgone income (which will vary from student to student), or just the direct costs. The latter costs tend to amount to a smaller share of private costs than forgone earnings.

But in every case, systems based on no fees (or negligible direct private costs) inevitably require scarce places to be rationed on some other basis, such as academic merit. In commenting on the British system, the Commission on Social Justice concludes that 'the real barrier to the expansion of higher education in this country at the moment is not the cost of entry but the supply of places . . .' (1994:139). Non-price rationing means that some people are denied their rights in order that others might have theirs fulfilled. Such a policy is therefore unlikely to address the rights of all individuals.

Each newly minted right creates a claim on someone. A rights-based justification for state subsidies can too easily ignore the rights of those denied entry by such a policy as well as the rights of those who are taxed to pay for the education of the chosen few. When it is realised that a large part of the expenditure for free education goes to those who would have attended anyway, the notion of education as a right loses credibility as a basis for public policy. Rather, it can become a slogan with a moral ring to it, used by those seeking to capture state subsidies. As one commentator put it:

Rights talk polarises debate; it tends to suppress moral discussion and consensus building. Once an agenda is introduced as a 'right', sensible discussion and moderate positions tend to disappear. (John Leo, quoted in Etzioni, 1993:6)

Accordingly, asserting that access to tertiary education at low private cost is a right provides little guidance about the appropriate levels of subsidy, or to whom the subsidies should be directed.

Externalities. The presence of some benefit to the broader community from an individual's investment in education is often commonly cited as an argument for subsidies to higher education. If individuals base their decisions only on the private benefits that accrue to them, thereby ignoring the impact on the well-being of others, they may underinvest in education from society's viewpoint.

Careful analysis generally narrows the range of potential externalities from an individual's investment in tertiary education. Some supposed externalities, such as the superior ability of a graduate to deal with shocks and new information, are as likely to be recognised by the graduate's employer as anyone else, so that the graduate captures many of the benefits through higher earnings. More important, defenders of state subsidies on externality grounds tend to argue that there is a *prima facie* case for public subsidies at current or increased levels; yet the mere existence of externalities in no way constitutes a basis for public policy choices about the amount of support for formal tertiary education. Widespread benefits stem similarly from a healthier workforce and from on-job training; but knowing this does not tell us how to allocate public spending between health and tertiary education. People who argue for current or increased government subsidies for formal tertiary education on the grounds of externalities do not generally call for the widespread subsidisation of on-job or informal learning on the same grounds. As Blaug (1987:127) noted:

No doubt, higher education has all sorts of consequences, some of which are even desirable, but so has going to work at 18 and that is hardly a reason for subsidising wage employment.

Furthermore, if it were accepted that the externalities of education (or health) justify current or increased levels of public support, one would need to examine other areas of investment that also contribute to wider benefits. And even if formal tertiary education were to receive state support because of its wider benefits, we must still ask what other form of investment is to be forgone in order to provide the additional educational investment. In short, as Brennan (1971) and Fane (1984) argue, the relevant consideration is the extra net public benefits that might be generated by subsidies, not their absolute magnitude.

In summary, existing levels and patterns of tertiary subsidies could be justified on externality grounds only if the judgment were made that externalities, at the margin:

- are higher at tertiary levels than at earlier stages of education;
- are highest in the formal tertiary education of students from predominantly advantaged backgrounds and are negligible for on-job, trade or basic skills training where trainees from lower-income backgrounds are more heavily represented;
- vary according to the type of formal tertiary course undertaken (with dentistry being more beneficial to society than arts, for example);
- differ among courses undertaken in private or state institutions (with externalities almost exclusively arising from the latter);
- predominate over private benefits associated with formal tertiary education (in which case student behaviour would exhibit a large measure of indifference about whether to participate in tertiary education and in their course selection; see Fane, 1984); and
- exceed the deadweight cost of raising extra tax revenue required to fund subsidies.³

These conditions seem unlikely to be realised, making it difficult to justify existing policies on externality grounds.

³ Diewert and Lawrence (1994, 1995) estimate that the marginal cost associated with labour taxation in New Zealand is between 14 and 18 cents for each dollar raised. These costs are additional to the revenue raised and to administration and compliance costs.

Equity. It is often argued that equity obliges society to ensure that places are available in tertiary education, regardless of the student's financial circumstances. Fairness, it is argued, is served by a highly subsidised tertiary sector, from which all can benefit.

Many defenders of subsidies on equity grounds seem immune to the evidence that public subsidies to higher education continue to be grossly inequitable. Mark Harrison points out that the case for abolishing fees for higher education 'could be no better illustration of the rhetoric of equality of opportunity and the reality of middle-class subsidies' (1994:58). Students from higher-income backgrounds are more than proportionately represented in formal tertiary education.⁴ Tertiary students who receive the greatest subsidies generally come from higher-income homes and choose courses that lead to the highest lifetime earnings. The pattern of tertiary subsidies is strongly biased toward those courses that lead to above-average incomes. This defies the logic of equity arguments for subsidies.

Participation in formal tertiary education is correlated with ethnic status. Maori, for example, are under-represented in the formal courses that attract the highest subsidies, but are over-represented in highly rationed training courses that attract relatively little funding. Many types of training courses fall outside the formal sector and receive no public subsidies. Society has deemed that high subsidies to dentists have a higher priority than creating more places in programs to build skills among unemployed school leavers.

In short, the current system of funding tertiary education in New Zealand reinforces rather than alleviates inequality. Students from advantaged backgrounds benefit from subsidies that are financed largely from taxes paid by lower-income families; those selecting careers with above-average expected earnings receive the largest subsidies financed by imposts on the general taxpayer.

A focus on equity in the public funding of education would lead to fees related to the ability to pay based on lifetime incomes, and to greater attention to reducing the uneven initial endowments of students at the start of their tertiary careers. Many are excluded simply because of the poverty of their educational backgrounds.

Objections to Increased Private Contributions

Since the release of the Ministerial Consultative Group's report, a number of objections to increased private contributions have been advanced. These are reviewed below.

Private rates of return mean that reduced subsidy levels are unsustainable. Recent evidence suggests that the private rates of return to investment in tertiary education are generally attractive (Maani, 1994). The New Zealand University Students' Association (1994) disputes this view, however, and argues for continuing subsidies on these grounds. But private rates of return should not be the basis for determining the appropriate level of subsidy. Subsidies reduce the cost to students and hence tend to

⁴ This is true even after correcting for the life-cycle effects on household incomes which lead to those with tertiary-aged students tending anyway to have higher incomes.

increase their private returns. This makes tertiary education more attractive, increasing the supply of extra graduates. Ultimately, the additional supply of graduates could be expected to reduce private returns, at the margin, to the same (risk-adjusted) return earned on other investment, including other, less expensive training. An observation that private returns from some expensive courses are similar to others may merely reflect overinvestment, and hence would constitute a case for reducing subsidies, not increasing them.⁵ Reducing subsidies over a suitable transitional period would reduce windfall gains and losses to previous, current and future graduates.

Higher fees are unnecessary because of economic growth. It has been argued that any extra growth in student numbers can be funded by the fiscal surpluses that New Zealand is now enjoying, without increasing the proportion of GDP that is spent on education (Boston, 1994; NZUSA, 1994). There are two difficulties with this argument. In the first place, future growth in rolls is uncertain. The modest growth of 1.2 per cent annually until 2002 forecast by the Ministry of Education may well prove to be conservative, as has been the case with previous enrolment forecasts (MCG, 1994:139).

The second difficulty with this argument is that there is no logical connection between the improved economic performance of the New Zealand economy with its accompanying public sector surplus, and the appropriate level of investment in tertiary education. The community must decide how much to invest. There are no valid reasons for assuming that some fixed share of GDP should be allocated to education or any other area of activity. Competing priorities should be considered, including debt retirement, social support to disadvantaged groups, and reducing taxes.

To tie funding to a given share of GDP would be to set an arbitrary precedent that could deny places to some students. Furthermore, to link the level of public expenditure on education to the business cycle would be to deny the long-term nature of investment in human capital. A cyclical upturn in economic activity no more justifies greater public subsidies than a cyclical downturn would justify cutting the level of public investment.

Graduates will pay higher taxes anyway. Under this argument, graduates are acknowledged to receive significant private benefits from a subsidised education. As a result of their ensuing higher incomes, they will pay more taxes. It is argued that these additional tax payments can be regarded as compensating society, at least in part, for their subsidised education (Jackson, 1994). In effect, the argument concludes, the costs borne by taxpayers at large in providing a subsidised education are recouped by

⁵ This conclusion is conditioned by the extent to which there is a 'closed economy' labour market and severe rationing of subsidised tuition places. To the extent that the incomes of graduates are set by world rates of return (because of the international mobility of graduates in certain professions, for example), and the limits on entry are binding, rents from tuition subsidies could be expected to be captured primarily by graduates. Reducing subsidies would reduce those rents.

the higher taxes that graduates will pay over their lifetimes. There is no real subsidy, merely an advance (albeit one involving no payment of interest).

The assertion that graduates eventually pay for their education through higher taxes could be true only if graduates were not bearing their full share of the costs of health, defence, social welfare or other tax-funded services. The tax and welfare system is not designed to levy taxes in proportion to benefits received, but rather requires people on higher incomes to contribute more because they can afford to pay.

Proponents of the view that graduates repay the costs of their tertiary education through higher taxes should not object to a proposal to lower the subsidies for tertiary education and at the same time introduce a corresponding reduction in income taxes. Such a policy would have no distributional consequences if it were true that, currently, graduates are repaying the full costs by higher taxes. However, the proponents are likely to object to such a proposal, precisely because the tax reduction would benefit all taxpayers, not just graduates. The tax reduction for graduates would therefore be less than the higher private contributions resulting from reduced subsidies. This indicates that people who have not benefited from a publicly subsidised education bear a significant share of the costs through their taxes.

Nor should the proponents of the view that graduates repay their subsidies through higher taxes object to calls by non-graduates for subsidies to invest in their businesses. Like taxes on graduate incomes, aggregate taxes on additional income from business investment will repay the costs of any subsidies. The transparent infeasibility of such a policy, if adopted generally, shows just how unhinged a debate can become when proponents ignore the fact that taxes represent transfers among citizens and not a claim on, or addition to, real resources.

Investment in education is treated penally for tax purposes. It is often argued that investment in human capital is concessionally treated for income-tax purposes because a substantial proportion of the investment (in the form of forgone earnings) is funded out of before-tax income.⁶ However, Trostel (1993) suggests that there may be a case for subsidising the direct monetary costs of tertiary education, such as tuition, because the tax system does not permit deductibility of these costs. The non-deductibility of monetary costs, in conjunction with the full taxation of subsequent earnings, can result in income taxes biasing such investment. Trostel (1994) argues that a subsidy equivalent to some proportion of direct tuition costs may therefore be justified on efficiency grounds.

Reducing adverse effects on incentives to invest in human and physical capital, which are typical of income taxes generally, should be addressed in the context of the

⁶ See, for example, Andrews (1974) and Pechman (1980). Forgone income is treated for tax purposes much like investments under an expenditure tax. With an expenditure tax, investment is funded from pre-tax income, and earnings that are derived on that investment are not taxed until they, and the original investment, are spent. In contrast, under an income tax, investment is funded out of tax-paid income and earnings are taxed as they are derived (with an allowance for depreciation in the value of the initial investment). However, accumulations that are withdrawn and spent are not taxed.

appropriate level of total government expenditure and the mix between taxes on income from capital and labour (to the extent these can be distinguished in respect of returns to education as opposed to other labour income).⁷ The prime efficiency issue raised by income taxation is the effect of disparities in effective tax rates among income from different sources. The relevant question in considering the case for tertiary tuition subsidies is not whether income taxes have an adverse effect on investment in human capital. It is, rather, whether investment in human capital is favourably or concessionally treated relative to investments in physical capital under an income tax.

As Trostel notes,⁸ the direct monetary costs of tuition may be penally treated for income-tax purposes. But concessionally treated forgone earnings typically constitute a much greater part of total costs of formal tertiary education.⁹ On balance there does not seem to be a case for universal public subsidies to correct for tax induced distortions in educational investment.

Debt aversion. Reduced public subsidies and higher fees could be expected to lead to greater use of the subsidised student-loan scheme.¹⁰ It is argued that some students would be so averse to acquiring additional debt that they would withdraw from study rather than extend their loan. But since the introduction of the loan scheme in New Zealand no evidence has emerged of any difference in the loan uptake rates for particular groups of students, including Maori and Pacific Island students who, it is argued, are more averse to debt. As the student loan scheme is income contingent, any aversion to debt based on a fear of default is totally groundless.

Young people use debt financing for starting a wide variety of business enterprises, as well as for car and house purchases. None of these loans offers repayments on an income-contingent basis. That people might graduate with a significant debt as a result of their investment in education makes no more of a case for continuing public subsidies than do loans taken for any other purpose. A young person buying a motorbike

⁷ In this context, it is interesting to note the conclusion of Roubini and Milesi-Ferretti (1994), using an endogenous growth model, that the optimal long-run tax on both capital and labour income should be the same if government borrowing is disallowed. This conclusion is in contrast with the typical result using exogenous growth models that the tax rate on capital income should be zero in the long run, while that on labour should be positive.

⁸ However, even here the case is not clear-cut. If future earnings are derived over a lengthy period, as seems probable, the deferral of tax on such income could be more significant than the tax effect of the non-deductibility of the initial expenditure.

⁹ St John and Skilling (1994) argue, however, that the amount of forgone earnings that benefit from the concession is much less than gross forgone earnings. In their view, many of the forgone earnings are simply upkeep costs, which should be deductible but are not. This conclusion is incorrect. Under an income-tax system, living costs are typically not deductible; this applies as much to those in paid employment as to those who are in full-time study. Hence it is gross forgone earnings that receive the advantageous tax treatment.

¹⁰ While loan schemes of some sort are often said to be appropriate because of capital-market failure, this does not necessarily imply that such schemes should be subsidised.

to start a courier service is not offered the same loan facility as a person acquiring a degree. Both could end up with higher income streams as a result of their investment. It is very difficult to make a case against expanded use of income-contingent loans for investment in education, when other young people not in tertiary education are borrowing to start careers at normal commercial rates.

Concluding Comments

Some opponents of increased fees and greater reliance on the income-contingent loan scheme view such measures as a further move toward a system of user charges and are ideologically opposed. The education lobby, students and middle- and higher-income families have also been vocal opponents. All of these groups have been benefiting from tax-funded subsidies to formal education. High costs of lobbying and poor information guarantee that the voices of those disadvantaged by the present system are seldom, if ever, heard.

There is room for genuine debate about the impact on participation of reduced state subsidies for formal tertiary education. By reducing the per student subsidy, more places can be made available. On the other hand, some people might be deterred if the private costs were higher. However, should that happen, it could well be because the private returns were not high enough to justify the investment in the absence of a subsidy. For that reason alone it would be imprudent to make abrupt changes. Those members of the Ministerial Consultative Group who supported an increase in private contributions also recommended a seven-year transition period.

But uncertainties about the effects of higher private contributions need to be balanced against the more certain consequences for the community if it continues to respond inadequately to those whose family, social and educational experiences contribute to an intergenerational legacy of deprivation. To the extent the government can address these problems, it will require a range of initiatives, including a more effective and responsive primary and secondary education sector. However, if state-funded assistance can be justified to educate students from predominantly higher-income backgrounds who undertake formal tertiary education, it is also required to address the current and future needs of students from disadvantaged backgrounds at all levels of education.

The allocation of so much of the state's assistance to students attending formal courses in state institutions is at odds with these pressing social priorities. That those subsidies disproportionately benefit students from higher-income households who are preparing for careers with above-average lifetime earnings makes the present system of funding inequitable. Were all students to fund a significantly higher proportion of tuition costs through student loans repaid from post-graduation income, wide disparities in assistance could be reduced, and greater attention could be paid to those who need help to get to the starting line or whose needs are best met outside the formal tertiary sector.

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