

Competition and Performance in Higher Education

Comments on *Learning For Life*

Peter Forsyth
Department of Economics
Monash University, Clayton, Vic, 3168

Brian Parmenter
Centre of Policy Studies
Monash University, Clayton, 3168

These comments are provided in an individual capacity and do not necessarily represent those of the Department of Economics, the Centre of Policy Studies or Monash University.

Summary

The Focus of these Comments

These comments concentrate on the Discussion Paper's preferred option of deregulation, and examine how a more student centred and competitive higher education might perform. While the general thrust of the Paper is supported, it is argued that the Paper has not considered relevant features of the sector, has not examined how competition might work in practice, and thus has not recognised a number of problems that are likely to emerge. These problems can, however, be addressed.

What is the Paper About?

The Paper could be more clear on what it is, and is not, about. It seems to be primarily about structural issues, such as the possible nature of the higher education market. It is rather less concerned about issues of how much in overall resources goes to the sector, and who, government or students, should provide for these resources. Many commentators believe that it should be primarily about these, and would like to see it advocating greater resources for the sector. However it is appropriate that the Paper does concentrate on structural issues, though not to the exclusion of these other issues. Who funds what is fundamentally more about judgments rather than analysis, though there are legitimate arguments for some public funding of education.

What is Wrong with Higher Education in Australia?

The Paper's discussion of the problems of the sector has good points, but there are serious deficiencies. Many of the statements about efficiency are grossly exaggerated, and do not stand up. This comes about partly because the Paper ignores the role of universities as institutions, with objectives and their own incentives. While performance can be improved, the areas of weakness, especially those concerning cost efficiency, need to be analysed more rigorously. It is essential to recognise that performance depends on internal incentives as well as external competitive pressure.

How will Deregulation Work?

The Paper implies, rather than states, how deregulation might work. It will affect how places are rationed, university sizes, and research funding. How well it works depends on features which are specific to the sector. There are problems of imperfect information; neither students nor central authorities are perfectly informed. Students can be myopic. Some disciplines, such as basic science, which are regarded by society as generators of positive externalities, may unduly contract or disappear under student centred funding. Universities may be motivated to be efficient or they may be slack. The effects of competition depend on whether they are quality, size or profit maximisers, or seek other objectives.

Research Funding in a Competitive Environment

Perhaps the single most serious problem with the operation of a competitive market concerns research funding. Currently, as the Paper notes, operational funds are provided to universities for research and teaching, though they are provided on a per student basis. This is already impacting on patterns of research funding, reducing funds to highly research productive areas. In a competitive environment, students will pay for teaching only. Universities will compete fees down to their teaching only cost, leaving little or no surplus for research. Apart from government and to a limited extent, private industry, no one buys research. Of per student funding, perhaps only two thirds

represents the cost of teaching and the other third is devoted to research, mainly as time for academics to do research. Unless specifically addressed, competition will virtually eliminate the largest single source of research funding in universities.

Making Competition Work in Higher Education

The problems which emerge under competition and student centred funding can be addressed. Research can be funded, possibly on the basis of universities' research performance. Scholarships or grants to universities for specific disciplines can ensure that those which contract unduly can survive and prosper. Some reliance on institutional based funding is desirable so that valued universities are preserved. Much innovation in teaching is of the nature of a public good, and it is desirable that it be supported directly by the government. Finally, as has happened with other sectors as they have been opened up to competition, a regulatory framework will have to be developed which addresses problems areas and directs universities to perform in ways consistent with society' objectives.

The perspective taken in these comments on the Discussion Paper is one of general support for the thrust of policy which it proposes. The preferred option of the Paper is one of a degree of deregulation of the higher education sector in Australia. In particular, this will mean greater reliance on student's preferences in determining who does what course at which institution, and it means that there will be more competition between institutions. Greater scope for student choice can lead to more effective use of the resources devoted to higher education, and more competition between universities can provide a spur to them to perform more efficiently in the sense of achieving the objectives of the sector with fewer resources, or achieving more with the same resources.

The comments will concentrate on the limitations of the Paper, to suggest ways in which it can be improved, and put a more coherent and effective set of options. There are a number of serious problems areas; however these can be dealt with.

Identifying the Sector's Deficiencies

An underlying limitation of the Paper lies with the identification of the problems facing the sector, and with the means set out for dealing with them. Many commentators have argued that the policy recommendations are something of a non sequitur, in that they do not address the problems as identified in the Paper. In short, they say that deregulation is not the solution to problems of low morale, declining quality and poor resourcing. To a degree they are right, in that the solutions put forward are directed towards improving the efficiency of the sector, rather than increasing the resources available to it. Many commentators seem to regard the real problems facing universities as being those discussed on p 1, and would not necessarily accept those discussed on pp 17-26 as being critical. Several problems mentioned on p 1 can easily be rectified by more money. The Paper does discuss the more fundamental structural weaknesses, on pp 17-26, but its discussion is incomplete, and it does not show effectively why these are the serious problems. Furthermore, it does not explain how its preferred options will help in addressing these problems. They can help, but this is yet to be shown, and the (quite serious) problems that can emerge under deregulation have not been recognised nor analysed.

It is understandable that many commentators have misunderstood the primary thrust of the Paper. The view taken here is that it is mainly about structures rather than levels. For example, it is about the ways in which higher education can be funded rather than the precise contributions of different parties- the government can pay most of the costs under a deregulated environment and it could pay only a small proportion under a regulated environment- or, vice versa. Good analysis can help in determining what structures will work well, but it is only of limited use in determining what share of the costs should be borne by the government. While the Paper does have some things to say about the latter question, it is finally a matter which has to be decided by the government. The Paper could clarify matters if it stated that it is primarily about choices of structure rather than how much the government should contribute. This can be easily done.

A more fundamental problem is that it says very little about what the objectives and motivations of the parties are likely to be, and thus how they are likely to respond to changes. What are universities maximising; size, growth, profits, quality (and what combination of all these)? Universities do differ, but few approximate the profit maximising firm of economic theory. What happens after reform is of concern for public policy, and thus objectives and motivations are important. The implications of deregulation for, say, quality, will be quite different if universities are quality maximisers rather than profit maximisers. Recent economic theory has emphasised how important institutions are- the Paper tends to proceed in an institutional vacuum.

This problem shows up in its discussion of how a deregulated higher education market might work- this discussion is almost entirely absent. Many commentators are predisposed to reject the Paper's recommendations, though not all are. The Paper does not really make out a case for its options. A case can be made, though such a case would have to come to terms with a number of difficulties- some of which have been raised, such as those dealing with the information available to students when they make choices, and those concerning the incentives to do research. Many other deregulated markets do exist, and it is possible to draw on their experience to explore how a deregulated market for higher education would work.

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Deregulated markets give rise to surprises, and sometimes major problems. One problem which is likely to develop if the Committee's preferred option is implemented involves research. Under the deregulated environment under which students choose amongst education providers, and pay for education, the current system of research funding, by which research funding is mainly tied to student numbers, will break down. Students will be willing to pay for their own education, but not some one else's research. A much greater reform to research funding than that envisaged in the Paper if a crisis is to be averted.

To turn the Discussion Paper into a more coherent blueprint for change there are several steps which need to be taken:

- (a) The problems currently facing the higher education system need to be spelt out more clearly, and some indication of their importance needs to be given. Some of the inefficiencies discussed in Ch 3 may be genuine (eg incentives to be similar) but are they significant? Some of the assertions (eg incentives to reduce costs) are unsupported and are questionable. Since change will be costly, evidence on the size of the possible gains needs to be shown,
- (b) Any new environment will have bad as well as good features. It is necessary to be explicit about what the recommendations will, and will not, achieve. Deregulation will not address several of the problems listed on pi, which for many observers are the most serious of the problems facing universities. It will address some of the problems identified in ch3,
- (c) The motivations and objectives of the various players, such as students and institutions, need to be spelt out, so that their possible responses to change can be understood,
- (d) There needs to be some analysis of how deregulated higher education markets work, and what the results of the preferred environment might be,
- (e) Within the context of a deregulated environment there needs to be discussion of what the role of government might be, how equity issues are to be handled, how research is to be funded, and how the appropriate level of government support can be determined, and
- (f) Given recognition of possible problems which emerge under deregulation, options need to be revised to address these problems.

What Will Deregulation Do?

It is useful to sketch out in clear terms what the deregulation option favoured in the Paper is likely to achieve. There are several key differences it is likely to make:

- (a) It will change the ways places at universities are rationed. At present places are primarily rationed on the basis of an indicator of student ability or quality (TER); deregulation will result in rationing on the basis of willingness to pay fees, as well as ability. It is unlikely that willingness to pay will completely supplant ability since universities are not profit maximisers; some are quality maximisers. Increasing the variables over which choices may be made may be, in an overall sense, welfare improving, though there will be losers as well as winners. For example, able poorer students with lower willingness to pay can be outbid away from their preferred universities, which will be relying more on willingness to pay fees and less on ability: less able but richer students with greater willingness to pay will gain. While in an absolute sense, with HECS arrangements, all students will be able to afford education, better off students will tend to have higher willingness to pay, and prices faced by some poorer students will rise. Students of lower ability, but from a richer background, will be better off as they will tend to have a high willingness to pay, and the new environment will open up opportunities of prestigious/quality education previously not available to them.
- (b) Preferred institutions will face greater effective demand, and they will be able to expand if they choose to do so. Less preferred institutions will face less demand, and they will be forced to contract. They will have few instruments available to them to increase demand; they will not be able to cut fees because fees will already be tending to the minimum consistent with covering costs by the workings of competition. A pattern of expansion and contraction amongst institutions is inevitable to the extent that previous decisions about the size of institutions were not made on the basis of student demand. In particular, several of the universities which were forced to expand in the late 1980s, regardless of inherent student demand, will be forced to contract. This will be a painful process; to an extent the costs may be regarded as the mistakes of the past being recognised.
- (c) The fee paying arrangements will break the current funding nexus between research and teaching. This nexus has existed for some time, and it has given rise to problems, such as a lack of incentive to do research. Recently strains have been becoming more evident. It will become necessary for the government to introduce a new funding source for research which replaces the student linked funding which will tend to disappear.
- (d) Deregulation will make it possible for students to express preferences over quality; they will be able to pay more to gain a higher quality of education. This will probably result in a greater range of qualities becoming available; overall this greater choice would be desirable. The overall level of quality could rise or fall; it is possible that quality has been over provided in the past. How desirable this is depends on one's view on how well informed students are about the merits of different qualities of education. If they are myopic or ill informed, they may under-purchase quality. If so, the outcome could be worse than the current outcome. Many commentators are concerned at the recent reductions in quality which have resulted from funding cuts; such commentators implicitly may have the view that higher levels of quality are optimal. If a deregulated market results in a lower overall quality than the society considers is warranted, it is possible for the government to increase quality by subsidising higher education directly, or more explicitly, subsidising the improvement in quality. Within a deregulated environment, it is possible to achieve an overall quality level which meets both student and society's demands, though without some intervention, the quality may fall, and it need not be optimal.
- (e) Deregulation will expand the range of variables over which universities compete. Currently they compete on quality variables; student ability and teaching quality. Under deregulation they will be able to compete on fees as well. Competition will not be introduced by deregulation, but it will be strengthened. To this extent, the universities will be under increased pressure to perform better,

through offering appropriate mixes of quality and fees to students, and keeping costs low. However, the objectives and motivations of universities will not be altered, at least directly, and those which are slack will still remain slack, though they will be under greater external pressure to perform. To the extent that incentives within poorly performing universities are unchanged, there will still be the scope for, and likelihood, of inefficiency. Deregulation of itself is insufficient to ensure efficiency in terms of meeting the objectives of the sector.

Objectives, Competition and Efficiency

The performance of a sector, such as higher education, depends on two main factors:

- (a) The external regulatory /competitive environment it is operating in, and
- (b) The internal objectives of the institutions, and the extent to which internal incentives are in conformity with these objectives.

"Performance" is a general term, and it refers to the effectiveness or efficiency with which the sector meets the objectives that society has for it. The paper puts a lot of emphasis on the external environment as a determinant of performance- this is quite appropriate. However, it hardly mentions or recognises the other fundamental determinant of performance; internal objectives and incentives. This leads it to make a number of inaccurate statements, and to provide an incomplete analysis of how competitive markets for higher education might work.

Institutional Objectives and Incentives

A major problem with the Paper is that it discusses deregulation in an institutional vacuum. It does not discuss what institutions are seeking to achieve, nor how good they are at this. It is not possible to analyse what will happen as a result of changes, such as deregulation, unless how the various actors will respond has been outlined. Their response will depend on their objectives, and how seriously they go about advancing these objectives.

What are universities seeking to maximise? There are several possible objectives, and any university may be seeking to maximise a mixture of these. A university could be a profit maximiser, as the typical firm is assumed to be in economic theory. If so, its responses to competition or regulation can be predicted. Alternatively, universities may be quality maximizers, in the sense that they seek to attract the best students, and graduate the best graduates, or they may seek to maximize the quality of their teaching and /or research. Some universities may be size maximizers; they may take up all opportunities to expand. Other objectives are possible as well. It needs to be noted that university objectives are not immutable. As the environment in which they operate changes, and as their governance changes, their objectives will alter. Such transformations are further reasons for paying explicit attention to universities as institutions.

Universities may be, given their objectives, efficient or inefficient institutions. Monopoly private firms can be efficient or inefficient producers; it all depends on internal incentives. A university could be, for example, a very efficient quality maximiser, in that it uses its resources very effectively to promote its quality objectives. However universities, like other institutions, can be slack and inefficient. A university might have confused and contradictory objectives, it may be disunited and internal incentives can be weak. Such a university may well be quite inefficient in that it uses its resources very ineffectively, and squanders its advantages.

What happens as a result of deregulation depends on what objectives universities have, and how efficient they are in pursuing them. Size maximisers may aggressively seek more students, whereas quality maximisers may keep numbers low. Size maximisers may move into markets for which they are not well suited, and waste the advantages they have. How well competition works depends on what the universities are attempting to do, and how effective they are in pursuing their objectives. In general, the efficiency results from competitive markets with profit maximising firms will not obtain when the objectives of institutions diverge from profit maximisation, as they do with universities.

A critical issue which needs to be addressed arises where the objectives of society diverge from the objectives of the institutions. The competitive regulatory framework must be designed, with the institutions' objectives in mind, to give them incentives to maximise society's objectives. Different institutional objectives call for different regulatory frameworks. Competition might work poorly if universities are predominantly size maximisers, but it might work well if society values quality and they are quality maximisers. It is not really possible to identify the competitive/regulatory structure to advance society's objectives if these objectives have not been specified clearly, and if the objectives of key institutions such as universities have not been specified.

Do Institutions Matter?

The strong implication from the Paper is that institutions do not matter, in the sense that there is no particular value to be put on preserving or strengthening existing institutions. Institutions will come and go like restaurants in a city or advertising agencies, as demand and fashions change. In a deregulated environment, nearly all a university's funding will come from students, directly or indirectly. If a university is not popular with students, it will either have to contract substantially or close. Other funding is not likely to make up for a substantial fall off in student based revenues; competitive research funding and donations will not make up the shortfall. Under the Paper's preferred scenario, it will be student preferences which determine which universities survive, regardless of what their other contributions are.

There are good reasons for believing that institutions do matter, and their existence should not be solely linked to their success in attracting students. As centres of research and scholarship, universities are institutions which take a long time to build up. Few if any of the newer universities in Australia are able to match the research performance of older universities, even though they have had a decade of comparable funding. Sometimes institutions can be built up quickly, as ANU was; if very substantial funds are channelled into them. The good performers in Australia in terms of research teaching and scholarship have taken many years to build up.

Good research and scholarship depend on a range of subtle and non quantifiable aspects, which are embodied in some though not all institutions. In the private sector it is difficult to precise about why some companies are highly successful and others are not. The same is true with universities. If some institutions fail, they need not be easily replicated or replaced by others. If institutions are performing well, it is efficient and desirable that they continue to exist and prosper.

The reasons why some universities in Australia are valued as institutions have little to do with the sorts of factors that students will take into account when choosing which university to attend. The university's prestige may have a bearing, but its research performance is one of a number of factors contributing to this prestige. Even if students are regarded as being appropriate choosers of their educators, they are not likely to be good judges of which institutions make a valuable broader contribution and which do not. There are some universities such as UNE which have very good research records but which are finding it difficult to attract students (because of their location). Such

universities will find it very difficult to survive under the deregulated environment as spelt out in the Paper.

The Paper does appear to be having it both ways when it discusses issues which impinge on institutions. This is evident when it discusses how regional universities might fare. It claims that regional universities will not be adversely affected because they have strong regional catchment areas for students. This may be true for some, but it is certainly incorrect for others. Students will shift away from universities which are unpopular or have small catchment areas, leaving them vulnerable as institutions. On the one hand the Paper claims that deregulation will make little difference to the size of such institutions; on the other hand, it claims that one of the main benefits of the student demand oriented environment is that current patterns of enrolments by institutions will change.

While the environment as outlined in the Paper will put several well performing universities at severe risk, this can be avoided by varying the funding approach. Firstly, if the problems with research funding discussed elsewhere in these comments are addressed, institutions will have a second major source of funds, related to an aspect of performance which is valued, which lessens the risks inherent in a student dominated funding environment. Secondly, as with nearly all higher education systems around the world, a proportion of funding can be direct to institutions. Student choice will still be important, and will determine the size of institutions, but universities which are seen as performing well will be guaranteed sufficient funds to survive.

The Sector's Weaknesses

The problems which come from discussing performance issues in an institutional vacuum are very evident in the Paper's discussion of the weaknesses of the sector. While it may be accepted that there are inefficiencies in the sector, many of the statements made are either greatly exaggerated or incorrect. This is especially true of statements dealing with incentives faced by the universities. Consider the following statements:

"Student demand plays little role in the allocation of public funding"(p1 8).

This statement is not correct. Student demand does not affect the funding to particular institutions very much. However it has a major impact on funding within institutions, especially between different disciplines and courses. Student preferences are a primary determinant of what is taught. Changes in demand result in shifts in resources between disciplines in a major way. Resources devoted to arts and science subjects have fallen and resources devoted to areas such as tourism, marketing and information technology have expanded enormously. These shifts have been very large, even though they have not resulted in equalization of TER scores; this is to be expected given the specific nature of universities resources (such as skilled scientists) which cannot be adjusted quickly. Universities which value quality and wish to attract good students cannot afford to ignore student preferences.

"There is no incentive, for example, for universities to seek low cost delivery options" (P19), and

"There is little incentive reduce costs in the absence of price competition" (p23).

These are extreme statements, which do not conform to the facts. If universities are keen to maximise quality, to attract the best students or to maximise profits, they have the incentive to reduce costs where possible, and to make use of low cost delivery options. While no university in Australia may be a profit maximiser, some probably fit into the other categories. The absence of

price competition does not mean an institution has no incentive for cost minimisation, as the case of the profit maximising monopoly indicates.

"There are no direct incentives for institutions to manage these assets in a more efficient way" (p34).

The discussion of universities utilisation of resources is particularly poor economics. For a start, it fails to recognise that much of the universities physical resource base is in the form of fixed, specific assets, with relatively low opportunity cost. If, for example, the UNE ceased to exist, most of its assets would have a market price of close to zero. While this is an extreme example, the point is general. Taxing universities with fixed assets of limited opportunity cost would not create incentives to use these assets efficiently. Secondly, the incentives to use these assets efficiently depends on competitive forces and incentives within the institution. If the institution has clear objectives and pursues these objectives strongly, it will have strong incentives to make efficient use of its assets. Observation suggests that most universities are using their assets fairly efficiently. Those on high value land tend to have very high density of buildings, while those on low cost land do not. Some have elaborate rationing or pricing systems for their scarce assets.

The failure to recognise the key importance of institutional objectives and their impact on incentives for efficiency within the institutions leads the Paper to make these extreme or incorrect comments, which lessen its likely persuasive power. It may be that some institutions are pursuing objectives which run contrary to those of society. If so, this problem needs to be specifically analysed and addressed; opening them up to greater competition may induce them to perform worse, not better.

What is wrong with Universities?

While the statements like those above may be rejected, it still can be maintained that there are inefficiencies within the universities. It would be desirable to explore these more fully, though this cannot be done here.

Many of the Paper's comments essentially deal with questions of allocative efficiency; ie those which concern the ways resources are allocated. The Paper makes a strong prima facie case that allocation of resources could be improved, by identifying constraints on student choice and the effects of the various funding arrangements. Note that saying this does not necessarily imply that any other specific arrangements, such as deregulation, will result in maximum efficiency, or even perhaps improve matters.

The Paper also makes many strong statements about matters of productive efficiency; ie the extent to which an institution uses its resources efficiently to keep costs at a minimum. However the Paper relies more on assertion than analysis. As argued above, effective institutions have an incentive to minimise costs even if they are not operating in a competitive environment. Some Australian universities are strongly motivated and probably are quite productively efficient.

There are grounds for concern, and they deserve to be examined more rigorously. It is useful to separate out administration from research and teaching.

If a university is administratively efficient, it will be able to devote more resources to teaching and research; its quality and quantity of these outputs will be increased. There do seem to be big differences in administrative costs across universities, and even within universities across faculties. Universities which teach similar numbers of students and have similar research outputs can have very different proportions of administrative to total costs, or administrative to total staff. These differences cannot be completely explained by other operational factors, such as reliance on distance

education. This strongly suggests that some universities are less efficient than others, and that if they were to reduce their administrative costs they would be able to increase the quantity and quality of their teaching and research. Evaluating efficiency in administration would be a straightforward matter for productivity analysis.

It is much more difficult to assess efficiency in research and teaching. Certainly measured outputs, such as students taught and research publications, per dollar of funding, do differ widely between universities. However, other factors are not easily measured, such as teaching quality and the difficulty of teaching some students. Some teaching/research departments may be more efficient than others, but it is difficult to measure the scope for improvement. The Paper suggests that greater use of new technologies will be able to reduce costs. However, while there may be some scope for cost reductions, there is a good chance that educational technologies will be like medical technology. This has greatly improved the quality of medical services, but it has hardly resulted in cost reductions.

In a more deregulated environment, it cannot be assumed that costs would fall. Measured productivity depends on the people they employ, and under deregulation the more productive are likely to be paid more. Until we have more robust measures of how efficiently teaching/research departments are run, and what the scope for gains in productivity are, it is probably best to be agnostic about the possibility of cost reductions. Such reductions in cost as are likely to come from universities are likely to be achieved through administrative costs in less efficient universities being reduced, partly as a result of increased competitive pressures.

Competition and Performance

As the Paper argues, a more competitive environment will force the universities to take more notice of student preferences. If students are perfectly informed, universities are profit maximisers and no universities have advantages through reputation or location, and any other aspects of performance society is keen to promote, such as research output, are addressed through other means, a competitive higher education market will perform very well. Universities will seek to satisfy student wants, and they will be forced to keep costs to a minimum. This is a demanding set of conditions and they are not likely to be met. Hence performance in a deregulated environment will fall short of the ideal. A deregulated market may be a good practical option, but the problem areas will have to be addressed.

It is difficult to generalise about the efficiency properties when universities are not profit maximisers. If some are size maximisers, it is possible that high cost suppliers will win students away from low cost suppliers, and overall costs will be higher than they need to be. If some universities have reputational or locational advantages, it will be possible for them to squander these through having higher costs. Competition will be insufficient to force these universities to minimise costs; efficiency can be achieved only if these universities objectives and internal incentives are addressed.

Probably the most contentious assumption is that students are perfectly well informed about the variables over which they make their choices. Almost by the very nature of education, potential students will be less than perfectly informed. Ideally they would have completed each course they are contemplating, and worked for several years, to be in a position to evaluate which one they should do. Students do currently make choices, but these choices are imperfectly informed. They are imperfectly informed about course content, and how the skills they will gain equip them for the labour market. Students may be myopic, and seek soft options which are less good for them in the long run than the alternatives.

With imperfect information, the superiority of competition to the alternatives needs to be demonstrated rather than just asserted. It can give rise to inefficiencies. Suppose that some universities are profit maximisers, and that some students are myopic; these universities will find it profitable to downgrade quality, to lower costs and gain market share. The long run outcome will be sub optimal. This situation might be addressed through regulation of quality, but it must be remembered that regulation is not costless and it creates other forms of inefficiency. While it is true that, like students, government and universities are not perfectly informed, it needs to be shown that reliance on student preferences in choice of courses and institutions is superior to centrally determined choices.

The overall impression is that the Paper's endorsement of competition is far too glib and ill thought out. It does not address a whole host of problem areas that can arise in this complex sector. It needs to take into account institutional objectives and incentives, advantages possessed by some institutions, the impacts on non teaching aspects of performance, and the information available to students about institutions and courses. Simple deregulation will create problems as well as solve them.

There is a relevant parallel with recent moves to introduce competition into the public utility industries such as telecommunications and electricity. In the process of opening up markets, a range of problems have emerged. The response has been to address these through regulation. While the objective has usually been one of "light handed" regulation, the result has typically been heavy handed, detailed regulation. The same is likely to be true of higher education. In attempting to address the many problems which will emerge with deregulation, a detailed and explicit regulatory framework will probably have to be developed. If done well, this could be more transparent and efficient than the present system. However, developing an efficient framework is much more difficult than the Paper seems to realise.

Research in a Student Centred, Competitive, Environment

Deregulation as envisaged in the Paper is likely to result in a dramatic reduction in research funding to universities. Currently, universities are funded to do both research and teaching; they receive funds from governments which they allocate to both these areas. Under deregulation, students will be willing to pay for their own education, but they will not be willing to cross subsidise research. Universities will compete on the basis of fees and quality (which comes at a cost) for students, and fees will be pushed down to the cost of supply. There is likely to be little or no margin for funding research. If current levels of research are to be maintained, they will have to be funded separately.

The discussion here will not pay specific attention to the links between research and teaching. It can be maintained, quite convincingly, that good research leads to better teaching in a university. Good research contributes to the reputation of a university, which helps attract students. Teachers who wish to excel often become interested in their discipline, and gain an enthusiasm for research. These links are recognised here; one should not regard research and teaching as two separate and separable activities, though the implications of these links are not specifically explored.

This raises several questions. One of these concerns what the cost of teaching is. Another concerns how research is funded now. These issues have not been dealt with very perceptively in commentaries on higher education, including submissions to the Review and discussion of the Paper. It is important not to confuse funding per student with cost per student- the latter is much lower than the former. There is some recognition in the Paper that funding to universities, which is primarily on a per student basis, is not just for teaching; rather it includes an major component of research funding. However, while this point is noted, its implications are not.

Under the current system, the government provides grants to universities for both research and teaching. Some funds, such as the Research Quantum, are specifically earmarked for research. The main operating funds, while to an extent calculated on a per student basis, are intended for research as well as teaching. Indeed, they constitute the largest source of research funding by far. Universities allocate the funds they receive. They have considerable discretion; they can allocate it all to teaching. Normally they do not; they implicitly allocate a major proportion (perhaps one third) to research. They do this by choice of norms of teaching quality, staff teaching hours, and student contact hours. In short, they choose teaching input levels such that most staff have considerable time available for research. There is a theoretical allocation of staff time of one third to research and the rest to teaching. While this allocation is essentially notional, it probably reflects reality quite well.

This can be seen by considering an institution which did no research. Such an institution could devote a greater amount of available staff time to teaching. Keeping teaching quality constant, it might be possible to increase staff time teaching by about 50%, and the number of students taught by the same percentage. Thus the cost per student would be one third less than the current level of funding per student. In fact, in years gone by, CAEs were funded on a teaching only basis. They did little research, staff taught longer hours than those in universities, and their per student funding was less. Funding per student at universities was higher, but they produced research output as well as teaching. It is simply incorrect to identify the funding per student as the cost per student; the latter is significantly less than the former.

Students are in the market for their own education, and they are willing to pay for teaching, but not someone else's research. Universities will compete to supply, and fees will be pushed down towards cost of supply. This will be much less than the current level of funding per student. They will be able to cover the costs of teaching, but they will not be able to fund research out of fees. In the deregulated market as outlined in the Paper, students will be buying teaching services, but there will be no one buying the research output which universities are currently producing, apart from the small proportion funded by direct grants. Overall funding to universities will fall substantially (unless students demand higher quality teaching services; if so fees but also costs will rise).

The evidence from markets which have been partially opened up tends to support this analysis. MBA teaching was once thought to be a money spinner. However it became very competitive, and fees were driven down. The revenue from many MBAs, including the more prestigious ones, are not sufficient to fund both teaching and the research which those appointed to cover the teaching expect to do- universities lament that other activities cross subsidise their MBAs. This is not surprising since students are willing to pay for the education component, but not the research component of the staff time. Competition has forced fees down to the teaching only cost.

Another example involves full fee paying overseas students. Here competition is limited by regulation; there are DEETYA imposed minimum fees, which are supposed to approximate costs. The experience in these markets is consistent with fees being set well above costs; high promotion and selling costs, big kickbacks, and generous special offers are all consistent with minimum fees being set above costs. Universities have realised that the costs, on a teaching only basis, are below fees, and that there are profits available in such markets; thus they spend heavily to attract students. Campuses devoted only to teaching overseas students, such as CQU's Sydney and Melbourne campuses, have been able to be quite profitable.

There is evidence that research funding is coming under strain even under the current arrangements. When student numbers in different faculties were fairly constant, and faculties could rely on stable funding from the university centres, traditional patterns of research could be maintained. Recently,

student numbers have been shifting from faculty to faculty, and now that faculty funding is much more closely tied to student numbers, some faculties are experiencing difficulties. Some with very good research records are being forced to contract because they are unable to attract students. Universities' internal funding formulae are often student number based, like DEETYA funding, and research is either not explicitly funded, or only in a minor way (eg through distribution of the research quantum funds). This structural shift is quite possibly leading, over the longer term, to a reduction in the amount of research overall; high research faculties, like Science and Arts, are contracting in favour of disciplines with traditionally low research output, such as Tourism, Marketing and Computing. The policy of effectively tying research funding to student numbers, which is now being implemented within universities as well as between universities, is setting up inappropriate incentives and leading to weakening the incentives to research, as recognised in the Paper.

In a deregulated market, if quality remains the same, fees will be bid down. This is not to say that they will be identical for all universities, or that there will be no surpluses available to fund research or promote other activities. Some universities will have advantages, from their reputation or location. Such universities' fees will not necessarily be driven down to their costs of supply. However, such surpluses as emerge will be far short of what is needed to fund the current level of research. Some universities which are good research performers will have no special advantages in attracting students (in fact, because of their location they may be unpopular) and will not be able to fund research from fees. Even those with substantial advantages will not be able to generate large enough surpluses to fund their research. Typically, even the very prestigious universities overseas do not fund their research out of student fees; they rely heavily on government, industry and donations.

In summary, a competitive environment coming about as a result of the deregulation of higher education preferred by the Review will result in universities meeting the needs of students for teaching services, since they will be paid directly for these services. They will not be paid for most of the research outputs they produce, and they will be unable to fund this research. Overall revenues to universities might fall by close to one third of current operating grants if the same average quality in teaching is maintained.

The upshot of this is not so much that deregulation is undesirable but rather that if the previous level of research effort was regarded as about right, there will need to be a replacement for the bulk of the research funding which will disappear under deregulation of the form preferred by the Review. Alternative funding from the private sector or donations will not be sufficient to replace student related government funding. The government will need to directly fund universities for their research. It could choose to do this through competitive grants, though the deficiencies identified by the Paper with this form of funding will persist. It may measure research output and fund universities according to their measured output. Alternatively, it may choose to fund certain universities on a more arbitrary basis (as it did before the late 1980s) so that some but not others are given sufficient funds to enable research. Which ever approach it adopts, it is desirable that staff in institutions funded for research are granted time to do research on a predictable basis, as happens in most universities around the world.

Making Competition Work in Higher Education

Much of the commentary on the Discussion Paper has focused on the preference for a thorough deregulation option, and has questioned how competition might work in higher education. The preferred option is quite different from the present environment and has serious implications for those involved in the sector. If implemented there would be major winners and losers. Not surprisingly, the Paper's preferred option has attracted only limited support. A clearer explanation of

what competition means, and a better analysis of its implications, is essential to make the case for competition more effective. This done, the problem areas which can be expected to arise under competition need to be addressed. They can be.

The most obvious priority is that of clarifying the issues, are making clear what the Paper is and is not talking about. It is primarily though not exclusively, about matters of structure rather than about levels of government and other funding. Much of the commentary is about levels of funding; commentators argue that the problems of the sector can be remedied with greater government funding. The question of who pays what, and what are the appropriate shares of funding from government, students and other sources are more about judgments rather than analysis. Some quantification of externalities, impacts on productivity and tax effects may be possible, but these will inform rather than resolve the funding shares question.

If there is a move to a more competitive industry structure, with current levels of funding from government being maintained, it is not possible to be certain about a number of aspects of performance which many are concerned about. Quality of teaching could fall or rise- it depends on what students are prepared to pay for. The overall resources available to the sector could rise or fall. A more competitive environment may be, in an overall sense, more efficient in using the resources available to the sector, but the result may be a less attractive environment in many people's eyes. Given this, the gains from competition need to be better documented.

To do this, it is necessary firstly to base the analysis on a more realistic picture of the institutions which make up the sector. Institutions have objectives which condition how they respond to changes proposed. This can then lead on to an analysis of how deregulated higher education markets might work, and what their outcomes could be. There are enough important differences between higher education and the traditional economic theory of the firm and markets to mean that the result in terms of performance and efficiency of competition need not carry over to higher education. Under some, not implausible circumstances, competition can make matters worse not better. The problem areas need to be identified and then addressed, so that options which have a genuine chance of making an improvement can be refined and implemented.

Possibly the most important priority area is that of research. Under competition, fees will be bid down to levels which are sufficient to cover costs and little more. Competition will break the current nexus between research funding and student numbers. Students will pay for teaching, but not research. Of the total operational funding to universities about one third is spent on research, mainly in the form of time to do research. This funding will disappear and it will need to be replaced if something like the current output of research is to be maintained. Universities will have no surpluses over teaching costs with which to cross subsidise research. There are several ways in which research can be funded. It would be undesirable, for the reasons mentioned in the Paper, to fund on a competitive project basis. A preferable option would be to fund universities or faculties on the basis of research performance, as is done to a limited extent already in Australia, and on a more extensive basis overseas, for example in the UK.

Another problem area concerns the likely decline of certain disciplines under competition. Only those disciplines which satisfy current student demands will be funded. There are reasons why it may be desirable for others to be funded at levels greater than those warranted by market demand. Students may be poorly informed about prospects or myopic, and central authorities may have better information. There are some discipline areas which society may regard as specially important, and as generators of positive externalities. Basic science may fit this category though marketing and law may not. The Paper's suggestions that technology will enable subjects in low demand to be offered does not get to the point; if there is an externality, it needs to be addressed directly. This could be

done by funding universities directly to provide teaching in specified areas, perhaps on a competitive basis as is done with key centres of research. Alternatively discipline specific scholarships, possibly linked to specified universities, can be offered.

Another problem area concerns the impact of competition on particular institutions. While certain universities may be valuable for their research and scholarship, they may not be popular with students. Under the Paper's preferred option, these universities may be forced to contract sharply, and may not survive. It is argued here that insufficient value is put by the Paper on universities as institutions which take a long time, or lots of money, to build up. A total reliance on student related funding is likely to produce a poor outcome, and a better balance of funding would necessitate a significant proportion of funding going directly to institutions.

An area which the Paper gives considerable attention to concerns research and development into teaching, and the use of new technologies. As with other forms of R and D, there is a substantial public good to this. Once one university has devised a new way of delivering a program, it does not have to be redeveloped by other universities; it is efficient for all to have access to the knowledge. To this extent, direct government funding of this R and D would be desirable. It might be possible, especially with additional funding from the private sector, for a specific university to invest heavily and develop an effective innovation, over which it could be given a patent. However, this would give it monopoly power in the market place. This could weaken or eliminate competition. While it might be able to sell its innovation to its competitors, it need not have the incentive to do so. This would be a serious risk if universities have as poor incentives as the Paper argues they have. As with other areas in industry, direct grants to foster innovations, which can then be made available to all, would be preferable to a higher education sector dominated by those universities which had been lucky enough to have stumbled on to the new technologies which really matter.

Finally, it is appropriate to recognise, as the Paper does, that a measure of regulation will be needed if competition is to work effectively. The market will not be perfectly competitive, and problems of incomplete information mean that it could perform poorly under competition under some circumstances. Quality issues may pose particular problems. If the workings of competition are analysed more thoroughly, and the problem areas identified, it would be possible for the Review to be more specific about the regulatory framework, and how it can address the problems that commentators have raised, while at the same time giving more scope than at present for competition to improve the performance of the higher education sector.

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