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ABSTRACT

This paper describes resource allocation in Australian universities including the broader context of national restructuring and a case study of one university's attempt to restructure resource allocation within the university. The 1987 restructuring of the Australian system from a binary system to a unified national system and the associated development of a funding mechanism focused on performance based funding, competition of institutions for funds, and diversification of funding sources are explained. The case study shows how one university utilized a Resource Allocation Working Party to review allocation of financial resources to organizational units. The Working Party identified principles for establishing best practices in resource allocation, identified criteria for assessing alternative resource allocation models, and developed its own resource allocation model. The model gives priority to the basic university functions of teaching and research, sets aside a proportion of its operating grants for minor works and equipment acquisitions, and allocates funds for university wide fixed costs. Forces affecting resource allocation at Australian universities which promise to have a future impact include the decreased real level of funding and the increased need to diversify funding away from government sources. Appended is a graphic illustration of the model developed by the case study university. (DB)

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Financial Planning in Australian Universities

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Jean Endo
Editor
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Abstract

This paper reports on the study of resource allocation in Australian Universities. It presents a broad overview of the funding of Australian Universities, including the innovative higher education contribution scheme introduced by the Federal Government to finance the significant growth of the system during the 1990's. After considering how resources are allocated to a university, the paper considers resource allocation within a case study university. It reports on a recent review of the funding model used within the particular university concerned. The paper concludes that it is important for universities to maintain an adequate balance between the funding of the core business of the university (teaching and research) and support activities.

1. Introduction.

In 1987 the then Australian Minister for Higher Education, John Dawkins commenced a revolution in Australian higher education. Mass higher education was introduced. Enrolments in 1995 had increased by more than a third over the eight year period. The number of Australian higher education institutions had been reduced by 50 percent. The long established Australian binary system of higher education comprising the colleges and universities had disappeared.. The creation of the unified national system of Australian higher education in 1987 caused many of the newer Universities to model themselves on the older institutions thus giving rise to uniformity in teaching and research mission of the Universities. This contrasted with the more diversified system of higher education in the United States. Australian universities since the Dawkins' reforms have become bigger in size. Sixty percent of these universities now enrolling more than 10,000 students and one quarter of them more than 20,000 students. Some educationists argued that we need a differentiated system of higher education that will encourage innovation and enhance response to the changing environment (Karmel, 1992).

Koder and Ross (1993) noted that since 1991, per capital funding to Australian universities has declined by 0.8%. Universities have to use existing resources to fund such areas as Equal Opportunity, Access Programs, Occupational Health and Safety etc. While these are worthy activities, however they further erode the resources allocated to teaching and research. There have been consistent reports of falling staff / student ratio, larger classes and reduced or even elimination of tutorials (Karmel, 1992).

This financial stringency has contributed to increasing tensions in universities, particularly relating to the priorities accorded to various sub-organisational units in terms of resource distribution. This study examines the funding environment in Australian Universities. It presents a case study to demonstrate an attempt by a university to develop a fairer system of allocating resources between the various organisational units.

2. *Funding of Australian Universities.*

The restructuring of Australian higher education also involved a review of the principles and mechanisms of allocation. The Federal Government's objective was to ensure that Institutions are able to participate equally in the Unified National System. The funding mechanism provides an equitable basis on which Institutions could compete for funds. It removes the funding inadequacies that have risen over time and are still reflected in the funding allocation (Dawkins, 1988).

Three studies were commissioned to examine the relativities in teaching costs. The Department of Employment, Education and Training (DEET) consulted the universities on the principles and framework in developing a new relative funding model (RFM). This model was based on a two dimensional matrix, using discipline cost as one axis and course level as the other (Doyle, 1994). To keep the model simple, only some teaching cost categories were selected. Five clusters were selected at undergraduate and two at post graduate research levels and 3 postgraduate coursework levels were adopted including undergraduate, other postgraduate (course work) and research higher degrees. The relative cost coefficients assigned to each cell in the matrix were established from the fundings of the three teaching cost studies. Operating grants for the triennium (1991 - 1993) were calculated by DEET. This is done by aggregating the institutions' student load, expressed in the equivalent full time student units (EFTSU) and by multiplying the load of each cell by the relative weighting factor. At that time DEET stated that the formula would be used on a once off basis. Thereafter university grants would again be determined on a historical basis.

From 1994, higher education capital funds were rolled into Institutional operating grants. Previously capital funds were allocated to universities by a bidding process that considered perceived needs. The Government felt that this change in capital allocations will enhance Institutional antonym and place the responsibility for Institutional resource management decisions more fully in the hands of the Institutions. It was also felt that this would enable Institutions to plan securely how best to meet

the need to expand, maintain, refurbish and replace there capital stock. Federal allocations of capital funding were made on the basis of institutions student load weighted by the previously mentioned discipline group clusters of the relative funding model.

In terms of funding for research, the Australian Government has moved to a more competitive basis for the allocation of these monies. From 1995, Australian postgraduate awards, research infrastructure grants and research operating grants were allocated on the basis of Institutional research performance. A research composite index was used to measure Institutional performance. A mixture of research input and output measures were used. The research input measures included in 1996, were national competitive research grants (65%), other public research funding (5%) and industry and other research funding (10%). The research output measures include publications (12.5%) and post graduate research course completions (7.5%).

In its 1987 Green Paper, the Australian Government ruled that an effective resource allocation system should be based on performance. Government and Institutions should also know whether their goals were met in areas such as student and graduate numbers. Consequently, in future, resource allocation would be funded on output and performance.

Recently, the Australian Higher Education Council has called for tenders for the project " The effects of performance based funding in the Universities ". Apparently, the Australian Government wished to move towards performance based funding in terms of teaching and learning. Williams (1994) commented that some measures of performance based funding already existed in Australia. For example, if student load targets were not met (together with new higher education targets), the Government can and will claw back funds from the University concerned. The current review may include more outcome measures such as graduation rates.

Since 1987 the Government has diversified its funding sources for higher education away from taxes. Similarly, publicly funded higher education institutions are permitted to diversify their own funding base away from Government sources only. Dobson (1995) observes that the largest proportion of funding was provided by the Government, with student fees and bequests providing the balance since the first university was established in 1850. Government grants constituted about 45 percent of university funding in 1939. By the mid 1970's, higher education was virtually fully supported by Government. No tuition fees were charged from 1974. This fee-free regime, however, lasted only a few years. For overseas students, an overseas student charge, which amounted to about one third of the average course cost, was instituted by the Fraser Government in 1979. Later in 1986, overseas student fees were charged to cover the full cost of tuition plus a capital component. For Australian students, the $250 per student higher education administrative charge was introduced by the Hawke Government in 1987.

The then Government decided that the massification of Australian higher education commenced in the late 80's will be partially funded through the higher education contribution scheme (HECS). HECS is, essentially, an income contingent student loan scheme. It advances funds to students to cover compulsory tuition fees and subsequently collects the money from graduates via the taxation system (Nicholls, 1995). This allows the Commonwealth to relate its repayment schedule to the level of income enjoyed by each former student. If the income does not reach the level of average male weekly earnings, no repayments are required of the student. If income falls below the threshold after repayment has commenced, or if it ceases altogether, payments are also reduced or suspended accordingly.

The HECS charge was initially set at above 20 percent of the cost of an average higher education program. The 1995 HECS charge was just over A$2,400.00. In 1993 HECS contributed the second largest source of higher education income, providing over 13 percent of the total earnings. Funding through the Commonwealth and State Government grant for that year stood at approximately 60 percent. Fees and charges including course fees from full fee paying overseas students and Australian

postgraduate fee paying students comprised just below 12%. Nicholls (1995) contrasts the HECS style income contingent loans with the ordinary "mortgage type" student loans, such as those available in the United States or Sweden. In these countries, students are obliged to pay back their loans within a certain time frame, no matter what their circumstances. Australian graduates need never have to repay their loans unless their income rises above the national average. There has been considerable international interest in HECS. Schemes resembling HECS are being established in Botswana and South Africa. Other African countries may follow. Countries from the former Eastern European Block, similarly in need of rapid expansion of higher education while short of funds to pay for it, are also examining the HECS option (Nicholls, 1995).

3. The Case Study University.

The case study University has a technological bias with over 50% of its enrolments in Science and Technology programs. It is also unique in that it has both a higher education sector and a technical and further sector (the later is somewhat akin to the community colleges in the USA). The university has approximately 13,000 equivalent full time students drawn equally from the two tertiary sectors.

This university is located in Victoria, a south eastern Australian state. Recently the Federal Australian Government decided that the higher education participation rates should be equalised across the states. Therefore, a decision was made to move funded higher education places from south eastern states to the north and west of Australia. This case study university will lose approximately 2% of its operating grants in 1997 to one of the northern states (Queensland). This and other pressures have lead to the review of resource allocation methodology within the university and this is the main focus of this paper.

4. *Resource Allocation within the case study University*

Due to the constrained funding situation facing the case study university, it decided to appoint a Resource Allocation Working Party on the 5th June 1995 to review the funding model used within the university to allocate financial resources to the sub-organisational units. The Working Party adopted the following procedures for the review:

(a) Evaluated the existing model by using SWOT (strengths, weaknesses, opportunities and threats) analysis of other universities with the case study;

(b) Considered the best practice in the allocation of university funds;

(c) Developed basic principles for allocating operating grants to sub-organisational units;

(d) Developed alternative models for allocating funds within the University;

(e) Established criteria for assessing the alternative models;

(f) Ranked the alternative models to the relative to the established and;

(g) Proposed a preferred model to the university for future use.

The procedures were found to be very useful to the Working Party and they can have general application to other Universities facing similar problems. Those elements that have more general application and are of potential interest to other university planners are described in detail below.

On the issues of best practice and resource allocation, the Working Party found difficulty in identifying national or international best practice in relation to resource allocation models due to the lack of comparative data measured in a consistent way

across the system. However, the following principles should assist in establishing "best practice":

- The allocation system should promote a equity of outcomes, effectiveness in achieving primary goals, cost efficiency and be relevant to the University's strategic objectives, mission etc.

- The resource allocation system should recognise that teaching and research constitute the core business of the University and has to be accorded appropriate priority.

- Decisions made in one devolved area should not have a negative financial impact on other devolved areas.

- The implementation of an affective resource allocation model required thorough preparation of budgets for specific activities and critical assessment of budgets against targets.

- Where readily identifiable and practicable, costs incurred by a management unit should be allocated to this management unit, eg using transaction based costing.

- The resource allocation system should be simple to understand and operate; it should permit flexibility /capacity to adapt to change and be responsive to student load changes; and be acceptable and owned by the university stakeholders.

- The University should allocate a line budget to the principal management units who are accountable to the Chief Executive Officer in ensuring that all Government targets are achieved and that funds are expended according to the approved strategic plan of the University.

The Working Party derived several criteria for assessing alternative resource allocation models based on the above principles. These include:

- equity of outcome
- effectiveness in achieving primary goals
- promoting cost efficiency
- the model being simple to understand and operate
- flexibility/capacity to adapt to change
- the model being acceptable and owned by stakeholders
- responsive to load changes
- relevant to the University's strategic objectives
- capable of performance measurement
- ability to guide decision making / quality improvement.

Each of the eight members of the Working Party were asked to indicate the degree to which a developed resource allocation model would be congruent with the above criteria. This process was useful in shifting through the six models developed and to identify the model which best suites the University with respect to the principles and criteria listed above.

The resource allocation model developed for the higher education sector of the University is illustrated in Figure 1 (Appendix 1). It broadly operates as follows:

(a) The University has found that a proportion of its operating grants needs to be set aside for minor works and equipment acquisitions. Past experience has shown that 1% needs to be allocated for minor works and 5% for equipment acquisitions. Those proportions are subjected to annual review.

(b) From the residual amount, off the top allocations need to be made with respect to those university wide functions where the costs are fixed or "compulsory" in nature, such as light, power and fuel. These include strategic initiative funding, funds allocation to the Chief Executive Office (Chancellery) and other specific functions such as internationalisation, equal opportunity and so on. Some of

these functions need to be reviewed annually so as to minimise allocations. This is essential if the core business of the university (teaching and research) is to be allocated the maximum amount of resources.

(c) Of the residual funds a minimum proportion must be allocated to teaching and research so as to protect the core business of the university. Other support units, were the costs are largely student load driven, would then be allocated the residual funds. The purpose of the latter is to place increased pressures on support areas to be more economical in their functioning. This is in line with the Chancellor's comment that the University need not be excellent in discharging management and administrative functions but that excellence needs to be achieved in terms of teaching, learning and research.

The model has not been implemented and that it is expected to be in operation for the 1997 academic year. Prior to implementation, the hard work of working out what the minimum allocation to teaching and research should be, will be a challenging task. From the latest statistical data available, the average proportion of funds allocated to teaching and research within Australia is approximately 62%. But the question is what should the university be aiming for - the average or the maximum or the minimum percentage allocated to teaching and research?. Judging by the comments made by the Chancellor, it would be his expectation that the proportion of funds allocated to teaching and research should be between the average and the maximum - ideally at the maximum end of the range. However, these are issues have to be resolved in the future.

5. *Future Directions for Resource Allocation in the Universities.*

Several forces emanating from the external environment will continue to intensify. These include:

- decreased real level of funding to Australian Universities
- reduction in funding to South-East Australian universities

- increased need to diversify funding away from Government sources to non-traditional areas including fee paying overseas students, industry.

Similarly, intra-institutional tensions relating to resource allocation will increase. This is particularly so with respect to the balance of funds allocated to teaching and research (all the academic units) relative to the support units of the Universities. Funds allocated to support units will decline. An increasing proportion of the funds will need to be allocated to teaching and research in order to maintain the currency of existing programs and permitting innovations in teaching, learning and research. This transfer of funds from support units into academic units will be coupled with the devolution of some responsibilities from central administration to academic administration. Already in the case study university, some functions have been devolved to the teaching and research divisions. These include student administration, planning and statistical functions and has accompanied the establishment of a comprehensive MIS within that university. Such a trend does have serious implications for central institutional research units in Australia.

Currently such Australian units vary in size from 3 FTE staff to up to a dozen in very large universities with a number of functions incorporated within such a department, including statistical returns to external bodies, EIS, planning and analyses, stakeholder surveys, quality and review activities. The pressure will be to downsize staffing of institutional research units (perhaps to 2-3 FTE staff) and cover the "essential" functions as perceived by management including accountability reports to the central government. Similar changes are likely to occur in other support units within Australian universities in response to reduction in government funding and the need to allocate greater priority to funds allocated to direct teaching and research units.

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Appendix 1

FIGURE 1
Higher Education Model