Whilst higher education institutions continue to sustain their interest in issues such as lifelong learning or curriculum and organisational development, the challenge of including disabled students in higher education still needs to be addressed.

The IMHE theme of regional development is also broached in this issue.

LIFELONG LEARNING
Funding priorities.
East and West German Higher Education: A comparative analysis.

CURRICULUM AND INSTITUTIONAL CHANGE
In French engineering courses.
In Greek universities.

INSTITUTIONAL INNOVATION
Cross-functional teams: An innovation or just another committee?
Responsibility centres for budgeting and management.

HIGHER EDUCATION AND DISABILITY
Management for inclusion.

IMPACTS ON REGIONAL ECONOMIES
Input-output analysis.
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Setting Public Funding Priorities for “Learning for Life”: Recommendations of the Australian Review of Higher Education Financing and Policy

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ABSTRACT

While the recent Final Report of the Australian Review of Higher Education Funding and Policy entitled, Learning for Life took a limited view of lifelong learning, it introduced the important concept of a lifetime learning entitlement and raised important issues about setting priorities for public funding support for post-school education, including higher and vocational education, and more broadly lifelong learning.

INTRODUCTION

This paper is about public and private financial contributions to the costs of post-school education, including higher and vocational education and more broadly lifelong learning, and about some of the difficulties in establishing priorities for the allocation of public funding to support these activities. In particular, it addresses questions about how priorities might be set in distributing public funding amongst a range of different post-school education and training activities when public resources are clearly limited. It highlights some of the difficult policy choices which face modern industrialised nations about the use of public funding to support quality services, where demand for such services is high and often increasing and where available public resources are static or declining.

The paper proceeds by considering recommendations relating to lifelong learning and “student centred funding” put forward by the Review of Higher Education Financing and Policy in its Final Report, which was presented in April 1998 to the Australian (or Commonwealth) Minister for Employment,

The Review was intended primarily to provide a comprehensive evaluation of the Australian higher education system and in particular to pay attention to the financing of both teaching and research, rather than to address questions of lifelong learning. However, both the Review's Discussion Paper and its Final Report gave major emphasis to lifelong learning. In fact, according to the Review Committee, its key recommendations were based on its vision for lifelong learning. But a close analysis of both the Discussion Paper and Final Report reveals that the Review Committee's vision for lifelong education was limited and its main recommendations on funding were concerned narrowly with a “student centred funding” or voucher scheme primarily for the acquisition of the first higher education or post school formal qualification. Disappointingly, there is little discussion of broader funding issues for lifelong learning as it is often conceived (e.g. Lifelong Learning for All, 1996). At the same time, the Review Committee came up with the important concept of a lifetime learning entitlement and made a serious attempt to address a number of issues related to rationing such an entitlement.

The paper explains the policy and funding context in which the Review Committee was appointed, and discusses the Review Committee's terms of reference and how it went about its work. Both the Committee's discussion of lifelong learning and its recommendations for a student centred funding system are set out. The paper then goes on to describe briefly the public and official reactions to the Review's work and raise a small number of issues about priorities for public funding. While the Review's discussion of lifelong learning was limited and its funding recommendations were both controversial and restricted in their scope, the Review's work raises important questions about the role of the State in the provision of a wide range of post-school education opportunities and especially about priorities for public funding or public subsidies when a post-school education system such as that of Australia moves from a publicly supported to publicly subsidised system. For example, what should government priorities be for funding higher education up to bachelor degree level, as opposed to funding vocational and technical education (VET)? What should be the priorities for postgraduate, updating or refresher courses as opposed to initial qualifications? What priority should non-credit adult and recurrent education have in relation to credit or award courses?
In the past, issues of this kind have been discussed in the Australian education system, but not to any great extent in recent years since the massive expansion in student enrolments in universities and the VET sector and since government funding for post-school education has come under such pressure. One of the arguments of the paper is that there is value in seeing the provision of post-school and lifelong learning as a continuum, and developing some overall priorities for the use of limited public funding.

THE POST-SCHOOL AND LIFELONG LEARNING CONTEXT

Australia has a well-developed higher education and vocational education system, and also has considerable provision for adult and recurrent education. But in recent years, there has been a strong tendency for both governments and governmental agencies to think of this range of provision in a segmented fashion. Unfortunately, the higher education sector is funded on a very different basis to the VET sector, making co-ordination and addressing problems of overlap difficult. Generally non-credit post-school education is seldom seen as constituting a sector with any significant degree of coherence and high priority for government support, and consequently it operates with limited government support or subsidies.

The current Commonwealth Government, however, appears keen to see a greater degree of co-ordination across the whole post-school sector. In a recent speech, Minister Kemp presented a new view of tertiary education, stating that the tertiary sector now “embraces the new national apprenticeship system, nationally recognised industry training, TAFE (Technical and Further Education), private training providers and public and private universities” (Kemp, 1998, p. 7). Hopefully, this signals new attempts to work towards a more integrated approach to the whole of post-school education and its funding.

On current participation patterns, it is estimated that about 45% of current Australian teenagers will enter higher education at some point in their lives, while a further 45% are likely to enrol in the VET sector (Learning for Life, 1998, p. 71). Thus Australia is well down the path towards almost universal participation in post-school education and training. In 1996, some 4.3 million persons (48% of the labour force) had attained some post-secondary education qualification and some 1.9 million (21% of the labour force) were enrolled in higher education and training programmes (Kemp, 1998, p. 7).

Currently the public higher education sector consists of 36 public universities that together in 1997 had a total enrolment of 659,000 students. In recent years, student enrolments have expanded rapidly putting great pressure on resources, while major reform driven largely by the Commonwealth (or Federal) Government resulted in abolition of the previous binary system consisting of universities and colleges of advanced education, and substantial reductions in the number of...
institutions largely through institutional amalgamations. In 1974, tuition fees were abolished and since then government funding for public higher education has been provided almost entirely by the Commonwealth Government although most universities operate under State legislation.

In a Green Paper on higher education (Higher Education: a policy discussion paper, 1987) issued just over a decade ago by John Dawkins as Minister for Employment, Education and Training, the Government recognised that it would be difficult for it alone to provide the resources necessary to achieve significant expansion of higher education and went on to suggest various options for raising funds from those who benefit from higher education. This led first to the introduction of an administration fee paid by students and then to the Higher Education Contribution Scheme, or HECS as it is popularly called. Under HECS, which has elements of both a graduate tax and a loan system, students take responsibility for funding a proportion of their course costs. Student contributions can take the form of “up-front” payments at the beginning of each semester, or may be deferred and recovered through the taxation system when the student’s income level reaches approximately the average for the total community. The novel feature of the HECS scheme is that it breaks the nexus between students and their family circumstances, and so has a number of advantages over a system of charging tuition fees but providing scholarships for needy students (Chapman and Salvage, 1997). In 1996, the current Government modified the HECS system by introducing a three-tiered system of charges, differentiated by field of study related to both course costs and earning capacity for graduates, and lowering the threshold income when graduates must commence repayment of their liability. Largely as a result of the implementation of HECS, the Commonwealth Government’s contribution to the operating costs of universities has declined from just over 80% in 1987 to approximately 57% in 1997.

Three other important changes have also taken place in higher education funding in recent years. First, in 1987 the Government relaxed the prohibition on charging fees for a range of post-basic award courses designed to upgrade the vocational skills and qualifications of people already in employment and, more recently, has pressed institutions to move all postgraduate course work awards to a full fee basis. As a result, income from tuition fees charged to both domestic postgraduate and international students now contributes significant additions to university budgets with fee income representing 15% of total institutional budgets (international students 6%, postgraduate students 1%, continuing education 4%, and other fees and charges 4%). Second, since 1995 operating grants to universities provided by the Commonwealth have no longer included additional supplementation to meet increases in academic salaries over and above the Consumer Price Index (CPI), and universities have moved away from central salary determination to enterprise bargaining at local level. The result is that in the past three years universities have had to meet substantial salary increases from their own resources. Third,
in 1996 the current Government announced cuts of approximately 5% over the three-year period 1997-1999 in operating grant funding. These cuts together with salary increases of approximately 10 to 15% over a three year period agreed to locally have substantially affected university budgets, leading to substantial reductions in staff, reductions in tutorial classes, and course rationalisation and other measures to reduce expenditure.

In 1997, the total revenue available to higher education institutions from all sources is estimated to have been AUD 8.4 billion. Of this sum, the Commonwealth Government provided some AUD 5.6 billion through the Employment, Education, Training and Youth Affairs portfolio, with the bulk of this being operating grants for universities, but with research grants constituting an important element.

Apart from the public universities, there are two small private universities which receive practically no government funding at all, a number of small private colleges which offer higher education courses up to degree level, an extensive VET sector of some 1.75 million students enrolled in TAFE institutes, and also community-based providers, and private providers. In 1996, there were 1,227,765 “clients” with TAFE and other government providers, 486,901 with community education providers, and 30,023 with private providers. Almost 78% of clients undertook vocational programmes, while the remainder undertook personal enrichment programmes. The VET sector has also seen substantial recent growth with the number of VET clients enrolled in vocational programmes increasing from 937,175 in 1987 to 1,354,579 in 1996 – an increase of 44.5%.

TAFE institutes come under the control of State and Territory Governments, but in recent years there has been major efforts of rationalisation to create larger institutions. While public funding for the VET sector comes from both Commonwealth and State sources, a new joint Commonwealth-State agency, the Australian National Training Authority, plays a key role in co-ordination. Other funding for the VET sector comes from private sources (such as companies purchasing training for their employees) and from individuals. Of total 1996 operating and government recurrent receipts of AUD 3.6 billion, 57.6% was State funding, while 23.7% came from the Commonwealth, 9.6% from fees for service, 4.1% from student fees and charges, and 4.9% from ancillary trading and other sources.

Higher education courses are also available through Open Learning Australia (OLA), a company originally set up in 1993 under the sponsorship of Monash University with Commonwealth Government support. Currently OLA delivers course units for AUD 425 per unit, which can be credited to a degree in a number of universities, but HECS is not available to students. Neither is HECS available to students in private universities and tertiary colleges, nor in the VET sector.

Generally fees charged by TAFE institutions rarely exceed AUD 700 per annum for diploma and associate diploma courses. This means that the element of public...
funding per full-time equivalent (FTE) student for TAFE is on average greater than that provided for higher education. On a per student basis, the net public contribution for undergraduate study at a university in 1997 was approximately AUD 6 200 per FTE, whereas the average subsidy for TAFE study was approximately AUD 7 400 (Learning for Life, 1997, pp. 119-120).

On the other hand, higher education students in undergraduate courses need pay no up front tuition charges as they may defer payment through HECS. As already noted, no such benefit is available to TAFE students. Lower student charges in TAFE mean that it is cheaper for a student to undertake a two-year TAFE qualification, which provides at least a year’s credit towards a degree, rather than undertake the first year of a degree in higher education.

Non-credit education and training is provided by a wide variety organisations including universities, VET institutions, adult education boards and agencies, voluntary agencies, private providers and employees. While there is still some government support and subsidisation, this kind of education and training is essentially on a fee basis, although employers often contribute significantly to the costs of vocational or professional courses. For such courses, providers often charge high fees. While ideas about lifelong learning and recurrent education gained considerable attention in the early 1970s, since then governments have largely neglected these areas.

Means-tested living allowances are paid to particular through the new Youth Allowances program (which replaced the AUSTUDY and ABSTUDY programmes) while Australian Postgraduate Awards are given each year to about 7 100 research higher degree students. For a period, Commonwealth tax law provided a taxation incentive for employers who invested in education and training, but this provision no longer operates. However, Australia still has a generous provision for long service leave for all employees who have served ten years or more with the same employer, while under the income taxation legislation employees may claim deductions for study expenses where a clear relationship can be demonstrated between the particular course of study and the taxpayer’s income earning activities.

While government funding priorities for post-school study clearly have not been developed in any overall deliberate way, such priorities clearly operate and their main elements include the following:

– While fees for vocational courses in the VET sector are low, government funding for other undergraduate courses is given on the basis that students will make a substantial contribution to their education.

– The most generously subsided courses are vocational courses in the VET sector where the subsidy contributes a much higher proportion of costs than for university undergraduate courses, and research higher degree courses in
universities where students hold an Australian Postgraduate Award, either with or without stipend.

– Most course work postgraduate courses in universities, as well as non-credit adult and recurrent education, operate on a full-cost basis.

– The HECS system is available for undergraduate courses in universities but is not available to students in private universities and colleges and in the VET sector.

– Living allowances are targeted through means testing to undergraduate students from lower income families and Indigenous Australians, while living allowances for over 7,000 research higher degree students are allocated on a competitive basis.

– Largely hidden subsidies operate through the income taxation system.

THE REVIEW COMMITTEE AND ITS WORK

The Review of Higher Education Financing and Policy was set up in late 1996 with a retired private school headmaster, Roderick West, as Chair. It was asked to undertake a broad evaluation of the higher education sector, provide a comprehensive policy framework for the future and, within this framework, identify options for the financing of higher education teaching and research. The Review was the first broad national enquiry into the Australian higher education sector since the Enquiry into Education and Training of the late 1970s.

While many observers believe that the Review was set up for pragmatic rather than strategic reasons, at the same time the Australian higher education system faced major problems in terms of funding that needed to be addressed. As already noted, in particular sustained expansion in student enrolments since the mid-1980s had put considerable strain on public funding.

Since the early 1990s, there had been considerable discussion of voucher-type funding schemes, especially after a “scholarship” scheme was put forward as an alternative means of allocating Commonwealth grants to universities by Peter Karmel in his John Curtin Memorial Lecture in December 1991 (Karmel, 1991). According to Karmel’s plan, universities would be able to charge fees for all courses but the Commonwealth would provide a pre-determined number of fee-remission scholarships or vouchers, entitling students to a partial remission of fees at approved institutions. The balance between the entitlement and the tuition fee would be paid, either by the student in advance each semester, or by the Commonwealth and then recovered later from students through the taxation system under an “HECS-type” arrangement. Universities would be able to enrol at full-cost fees those students who did not secure an entitlement. Additional scholarships would be offered to particular students for labour market and equity
reasons and these would meet the difference between the value of the Government entitlement and the tuition fee. Significantly, Karmel argued for this scheme not so much as a means of providing more efficient resource allocation, but as a means of reducing bureaucratic intervention in the affairs of universities and encouraging institutional diversity.

Since 1991, similar schemes have been advocated by various other higher education leaders, while in 1997 Peter Baldwin (1997), former Labour Minister for Higher Education and at the time shadow Minister for Finance, proposed a student entitlement funding scheme for higher education. His proposal, however, was not taken up by the Labour Party. The two Coalition political parties made a voucher scheme the centrepiece of their higher education policy in their unsuccessful 1993 Federal general election campaign.

Apart from financial pressures, other perceived major problems and issues needing attention in the higher education sector at the time the West Committee was appointed included problems of overlap between higher education and the VET sector, concern about the ability of Australian higher education institutions to compete with overseas and private providers in a more deregulated market, challenges of new communications and information technology, and dissatisfaction with aspects of funding for university research.

The Review Committee was supported by a small secretariat within the Department of Employment, Education, Training and Youth Affairs (DEETYA) whose members took the main responsibility for drafting both the Discussion Paper and the Final Report. The main sources of information for the Review were invited submissions, responses to the Discussion Paper, wide consultations with vice-chancellors and other senior officers of higher institutions and major interest groups, commissioned papers and material prepared by the Higher Education Division of DEETYA.

The Committee’s Discussion Paper which was released in late October 1997 was only 45 pages in length, but included 16 appendices running to about 450 pages of text. While the Discussion Paper contained a great deal of useful information, it had all the marks of a document put together quickly, with possibly some changes in direction being imposed at the last moment.

The central feature of the Discussion Paper was a proposal for a student funded policy framework, which the Committee asserted would serve as a better basis for allocating public funding to support both undergraduate teaching and research higher degrees. Under this proposal, students would have access to a lifetime of Government financial support that would cover most undergraduate degrees and double degree combinations; or a package of study involving, for example, a VET qualification and a three-year undergraduate degree; and possibly some postgraduate study.
The Discussion Paper began by asserting that the policy framework, which had regulated higher education for the previous decade, was under great stress and in universities there was a “feeling of unease” and profound concern about the future. It reported that the business community was concerned about the capacity of universities to meet labour market needs, and made much of the likely future challenges to public universities from private competitors from both Australia and overseas. It expressed concern that higher education had an overly domestic focus without recognition that it constituted an important industry. It labelled the current funding system as being too inflexible, with insufficient incentives for institutions to innovate, and too focused on processes and not enough on educational outcomes. This led the Committee to advocate a new approach, which it claimed would instil:

“a culture of lifetime learning, develop a well informed and socially responsible community, inculcate respect for scholarship, enable graduates to play a role in wealth creation, provide industry with advanced skills, provide a wealth creating world competitive higher education system, and ensure that no Australian with intellectual ability to succeed was denied access to a place” (Learning for Life, 1997, pp. 3-4).

THE COMMITTEE’S VISION AND RECOMMENDATIONS

The Final Report of the Committee went to Minister Kemp in April 1998 and was released publicly almost immediately. In summary, it recommended a student centred funding scheme with public funding for tuition costs being driven by student choice for both undergraduates and research students, and with institutions being able to set their own tuition fee levels; more emphasis on priority setting and national co-ordination in research funding; and a more competitive and entrepreneurial higher education system, better able to compete internationally and with capacity to make the necessary investments in information technology and infrastructure.

While the general thrust of the Final Report did not vary greatly from that of the Discussion Paper, technically the Final Report was a much superior document, which attempted to address many of the criticisms made of the Discussion Paper. Much more detail was included in its 175 pages of text (plus 59 pages of appendices), its key arguments were much better developed and various references were made to international trends and how well the Australian higher education system measured up according to international indicators.

The key opening argument of the Discussion Paper about the higher education system being in crisis was discarded, and instead the Final Report began with the Committee’s vision for higher education in terms of lifelong learning and almost universal participation in post-school education. It saw higher education as being
able to play a critical role in equipping Australians with the skills and knowledge to meet the economic challenges of the twenty first century. Higher education, it argued:

“has a distinctive and important role to play in the learning society. In particular, higher education should, whatever the form it takes, whether it be professional, technical or liberal, open, nurture and refine minds, and create independent learners. It should enable individuals to grow intellectually, to achieve personal fulfilment and to contribute fully and at the highest levels to society, the workplace and the nation” (Learning for Life, 1998, p. 43).

In the new era of change, it saw education and training as enabling people to respond:

“All Australians must have access to postsecondary education and training opportunities if they are to participate fully in the life of the nation. Participation in lifelong education, even to the most advanced levels, is accepted as part of the social and economic fabric” (Learning for Life, 1998, p. 43).

It quoted approvingly the 1972 UNESCO report, Learning to Be, and recommended that the Government:

“… Declare its commitment to the establishment of a learning society in which all Australians, of whatever social, cultural or economic background, have access to postsecondary education of excellent value” (Learning for Life, 1998, p. 48).

Curiously, while the Report addressed the issue of a universal entitlement to government assistance to achieve a first qualification, there was no discussion of what role government funding should have for recurrent education and upgrading of skills throughout life, both of which could well be regarded as essential elements of lifelong learning. Neither was there any attempt to review the total sum of resources already provided by Commonwealth and state governments to post-school education and lifelong education.

On the basis of its vision, the Committee went on to recommend a funding and policy framework with a student centred funding system as its central element. Under this system, it claimed that public funding for tuition would be tied much more closely to demand. All school leavers and adults accessing postsecondary education for the first time would have a lifelong learning entitlement that could be used at an existing university, a TAFE college, or at a private university or VET provider. Institutions would be able to set their own tuition fees and an “HECS-style” loan system with repayment contingent of future income would be available to all students to allow deferment of payment of any tuition fees not covered by the government entitlement.
Other sections of the report dealt with research, research training, investment in new information and communications technology and the improvement of teaching. To facilitate the development of a “world-class higher education industry”, the Committee recommended a number of measures including increased capacity for universities to mobilise resources to invest in information and communications technology, reduction of barriers to new providers and measures to increase competition, and improved consumer protection.

PUBLIC AND OFFICIAL REACTIONS

To a large extent, official and public reaction to both the Discussion Paper and Final Report was negative and disappointing, but also predictable. Critics objected, in particular, to the proposed student centred funding model, the likely additional financial burden under this model on students enrolled in institutions which charged higher tuition fees and on students from low income families, the lack of sufficiently strong arguments by the Committee in support of increased public funding for higher education, and the proposal to extend HECS to TAFE institutes. Many commentators including a number of university vice-chancellors seemed to have made up their minds in advance; for many, the idea of a student centred funding was viewed as a right wing ideologically-driven proposal. Key interest groups including the National Tertiary Education Union and student associations were highly critical of both the report and its key recommendations. On the other hand, a small number of vice-chancellors were publicly supportive of particular recommendations, while quite strong support for the core recommendations came from the major daily newspapers and a number of business and industry groups. Unfortunately, the work of the Committee did not prompt a serious discussion about public funding priorities for higher education, the VET sector and lifelong learning more generally.

Both Minister Kemp and the Labour Party spokesperson on higher education quickly distanced themselves from the idea of vouchers and universities being able to set their own tuition fee levels. Kemp also ruled out the idea of HECS being extended to the TAFE sector. Both the Government and the Opposition realised that vouchers were a sensitive issue and did not want vouchers to become a major public issue in the run up to the next Federal elections. A few days after the Final Report was released, in a carefully crafted speech given to an OECD seminar in Sydney, Minister Kemp (1998) effectively moved the spotlight from the West Committee's report to the Government’s own agenda for higher education. Since then there has been little further discussion of the report of the Review, although following its return to power in a general election the current Government has promised to provide a detailed response.
DISCUSSION

While the West Committee’s work had clear limitations, at the same time the Committee seriously addressed issues relating to public and private benefits from and contributions to the costs of post-school education, and various issues involved in establishing priorities in the allocation of limited public funding resources to support post-school education and lifelong learning. While it used the term lifelong learning in a curiously limited fashion, it advocated the idea of a lifetime universal entitlement towards a first post-school qualification. Both the Discussion Paper and Final Report illustrate some of the difficulties faced by modern societies in endeavouring to meet demand for services and ration public funding in a reasonably equitable, efficient and acceptable manner.

With recent rapid expansion of student enrolments and with post-school education approaching almost universal participation, societies such as Australia find it difficult to maintain public funding levels especially at a time when there are increasing demands for public resources from other sectors of society, and when there is often a clear lack of both public and political will to increase taxation levels. This situation prompts governments and post-school providers to explore new options for funding, including increased use of market mechanisms to achieve greater efficiencies and responsiveness, further deregulation of controls especially over tuition fees, expansion of the role of private funding and the private sector, and increased commercial activities by higher education institutions themselves (Dill, 1997; Williams, 1995).

Australia currently faces difficult policy choices in terms of funding for post-school education, despite efforts by governments over the past decade to increase the contribution of private funding and the private sector, to seek greater institutional efficiencies and to encourage institutions to undertake an increased range of commercial activities. In the case of higher education, as already noted, considerable sums are now generated by HECS, by charging tuition fees for both domestic postgraduate students, international students and a limited number of full-fee undergraduate students, and encouraging an increased range of commercial activities and additional cost saving methods. In the case of the VET sector, the main efforts to overcome shortfalls in funding have included recruitment of international students and commercial activities. In order to increase competition in the VET sector, TAFE institutes must now compete with private providers for particular contracts.

As already noted, the higher education sector in particular is currently under great strain, with diminishing resources and no early prospects of relief. While student load increased by 49% over the period 1988 to 1996, academic and general staff numbers increased by only 26% and this situation is further deteriorating as a result of recent Government decisions and the prospect of further salary increases.
Clearly one solution to this financial crisis facing universities would be for the Commonwealth Government to increase its financial contribution to public universities, and this is one favoured by many stakeholders. According to one NTEU branch president:

“What is needed is for vice-chancellors to demand – not just lobby, ask or plead... They should knock on the door and not go away until they have sufficient funding – otherwise they are not worth the money they are being paid” (Armidale Express, 29 June 1998).

But increased Commonwealth Government funding for higher education seems unlikely whichever party is in power. In these circumstances, it is not surprising that a significant but minority group of higher education leaders consider that possibly the only way forward is to look for increased contributions from students and private investment, and so favour a more market situation with possibly some kind of student entitlement scheme, combined with freedom for universities to set their own fees. In doing this, they argue strongly that, at a minimum, the Commonwealth Government should maintain its current level of funding.

In advocating its student centred funding scheme, perhaps the West Committee could have done more to explain how such a scheme actually would bring additional resources into universities. Presumably this would be done by three different mechanisms: first, by allowing current universities to set their own fees and so increasing the amount of fees not covered by HECS; second, by allocating entitlements to private institutions and so encouraging the expansion of the private sector and the investment of private funds in higher education; and third, by increasing the amount of competition in the sector and so achieving increased efficiencies and a greater range of choice for consumers.

One of the tasks of considerable value that the West Committee accomplished was to raise the issue of what sort of priorities need to be set if public funding is not sufficient to pay the full costs of education and training services. In its Discussion Paper, the Committee outlined its views on the guiding principles for funding post-school education. It suggested that a national target should be near universal access to some form of postsecondary education and access for all students to a HECS style income contingent loan, so that all students could defer payment of any tuition costs until they are earning a reasonable income. It saw as being equitable to look to most students and their families for a reasonable private financial contribution:

“Participation in postsecondary education generates a significant private benefit as well as a benefit to society. It is therefore reasonable to expect individuals to contribute to the cost of their education to a greater extent than is appropriate for primary and secondary schooling. However, the level of the
individual's contribution should be fair, and not represent an excessive burden on students and their families" (Learning for Life, 1997, p. 5).

In the Final Report, the Committee elaborated further on priorities. While it saw the desirability of universal access to public support for postsecondary education, it recognised this was impossible for budgetary reasons and so opted for a universal “lifelong learning entitlement” that was sufficient to cover the following possibilities at current prices:

– most undergraduate degrees and double degree combinations; or
– an undergraduate degree and some postgraduate study; or
– a package of study involving, for example, a Vocational Education and Training qualification and a three-year undergraduate degree and possibly some postgraduate study (Learning for Life, 1998, p. 132).

The above entitlement, it suggested, should be limited by the length of the entitlement in terms of years of full-time study, although in the Discussion Paper it had suggested an alternative would be to use a monetary limit.

The Committee recognised that some might question whether the above entitlement was affordable and so went on to argue that such a system could be funded out of current Commonwealth and State expenditure on postsecondary education and training. According to its calculations, current expenditure could fund 38% of the 1996 school leaver cohort with a AUD 26 000 lifetime entitlement representing the public contribution to the costs of undertaking undergraduate study. This could provide access to postsecondary education for nearly four and a half years of fulltime study if the average value of a tuition grant was AUD 5 800 per full time equivalent year of study.

If universal access to postsecondary education is to be achieved, and be fiscally viable, the Committee saw two key principles as being important – the split between public and private contributions for all post-school education should be the same, with HECS type contingent loans available to all, and the public contribution to an individual's entitlement should be limited to a reasonable amount. Many would support the first proposition as being equitable and efficient, although it is possible that a Government may wish to provide a financial incentive for some students to enrol in the VET sector rather than in universities. The Committee thought the public funding contribution should be available at any institution, whether public or private, although the extent of the public contribution could possible vary in extent in relation to the field of study and the course costs involved.

In the Final Report, the Committee raised other issues of priority. It defended its view that public funding in the first place should be available for undergraduate and sub-degree awards over postgraduate course work, and thought that school leavers should have priority over mature age students. It noted that its recommen-
dations ran counter to current practice under which there is no limit to the amount of public funding that undergraduate students may receive so long as institutions will enrol them. While it favoured a near universal entitlement for school leavers, it did point out that it would be possible to design a student entitlement funding model which limited administratively the number of students who would receive funding. As already noted, major deficiencies of the Committee’s discussions about priorities were that no attempt was made to systematically review what resources currently are made available by Commonwealth and state governments to post-school education and lifelong learning and about priorities for lifelong learning other than that occurs in the university and VET sectors.

In many respects, the 1997 New Zealand Green Paper (A Future Tertiary Education, 1997) went further than the West Committee in canvassing possible priorities for government funding for tertiary education. It suggested that the level of government funding should be guided by “the Government’s desire to ensure access to tertiary education by all who can benefit from it, while retaining prudent control of government expenditure” and argued that a “Government also had to ensure that the community enjoys the benefits of tertiary education and research” (A Future Tertiary Education, 1997, p. 15). It suggested that whatever the resourcing system used for public funding (i.e. government purchase of places, bulk funding or student entitlements) the Government needs to provide incentives for quality and efficiency and encourage participation. It identified the following seven key issues to be addressed:

- Should a further subsidy be provided after a gap of tertiary study, or should the full amount of the subsidy be provided from the start?
- Should a student contribution be required, or should the student have a choice about using their subsidy to pay for all of the costs of their course?
- Should the subsidy be the same for all students (i.e. a flat subsidy), or should the subsidy differ according to the costs of courses and programmes?
- Should the subsidy be delivered to providers through a modified bulk-funding system, or through a student entitlements system?
- Should the subsidy be paid on enrolments alone, or on enrolments and completions combined?
- Should all students receive a subsidy regardless of where they study, or should subsidies be limited to tertiary education institutions and on a restricted basis to private training establishments as with the current arrangements?
In summary, while the West Committee’s discussion of lifelong learning was limited, both its Discussion Paper and Final Report introduced the concept of a lifetime learning entitlement and raised important issues about public and private benefits and about priorities for public funding or subsidies. In any modern society, it would be of considerable value for the various kinds of public support and subsidies to be made clear and for priorities to be deliberately set, rather than allowing priorities to develop in a largely unplanned and uncoordinated way.
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The Challenge of Lifelong Learning: Differences and Reactions of East and West German Higher Education Institutions

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ABSTRACT
This article will give an account of some of the reasons for the unsatisfactory state of academic continuing education in Germany and point out some trends which can be noted currently. First, the status of continuing education at higher education institutions will be described for East and West Germany before unification took place. Due to the substantial restructuring and renewal of higher education in East Germany after 1989 also affecting continuing education provisions, recent developments in the new East German states will then be outlined. In a third step, an overview is provided of new policy papers and recommendations concerning the challenge of lifelong learning for higher education institutions followed by a discussion of the implications of these developments for the institutions. In the concluding part a few likely scenarios are developed which take into consideration the differences between East and West German higher education institutions.

INTRODUCTION
Responsible actors in German politics and higher education as well as numerous working groups and commissions in the field of continuing academic education share the view that continuing education provisions of higher education institutions have become ever more important and should be improved and extended. Various recommendations to such effect made by official commissions have been accepted and approved by governmental and state actors and in fact, most higher education institutions make some provisions for continuing education. Still, again and again surveys have resulted in conclusions to the effect that continuing education is not in the limelight of politics and policy and actual provisions of higher education institutions are insufficient and unsatisfactory in Germany.
As there is a large and rather unstructured market for continuing academic education in Germany in which higher education institutions are just one player among many, some definitions and explanations are in order as a first step:

- This contribution will only deal with continuing education provided by higher education institutions, i.e. continuing academic education, not with other provisions at other educational levels nor with other providers of continuing education.

- Apart from higher education institutions, i.e. universities and Fachhochschulen (nowadays officially termed universities of applied sciences), there are other providers of continuing academic education (e.g. professional associations as they exist for lawyers, engineers, pharmacists or medical doctors; private providers; associations of employers or enterprises, etc.) with which higher education institutions or individual academic staff may or may not co-operate. These other providers are not included in this article.

- Higher education institutions offer certain types of continuing academic education. These are foremost study programmes of one or more years’ duration aiming to provide additional or complementary qualifications which build up on existing higher education degrees and work experience. In East Germany, many institutions have also been involved in adapting, upgrading and updating existing academic GDR qualifications through bridging courses mostly taught by West German academic staff. Other types of continuing education provided by higher education institutions include doctoral programmes, distance studies, study programmes for older people and opportunities to enrol as guest student. Institutions, or rather departments and faculties, also participate in events, fairs, workshops and most institutions have a special unit responsible for technology transfer. In addition, all universities have provisions for staff development and training of junior researchers.

- Academic staff might become involved individually in continuing academic education by teaching classes or courses offered by external providers or giving extra-mural lectures.

THE STATUS OF CONTINUING EDUCATION IN WEST AND EAST GERMAN HIGHER EDUCATION BEFORE 1989

Three developmental lines form the basis for the status and situation of continuing academic education at West German higher education institutions today:

- Extra-mural continuing education activities of universities (starting around the beginning of the 1950s).
– Contact studies (since the mid-1960s) with the aim to update existing qualifications of former university graduates.

– Distance education, either located in special units at a university (in 1967 foundation of the German Institute for Distance Education at the University of Tübingen) or via radio and television.

Following the foundation of the first and only distance education university in 1975 (more than 55,000 students in 1997), the Higher Education Framework Law (1976) explicitly included continuing academic education as one of the tasks of all higher education institutions. In this context three fields of activities were defined to fulfil this task:

– Development and offers of continuing education studies as full course programmes or shorter study units with a proper curriculum.

– Participation in external provisions of continuing education, for example, provisions by adult education organisations or professional associations.

– Promotion of academic staff development.

Since the beginning of the 1980s, various recommendations have been formulated about how higher education institutions should become more involved in continuing academic education. Although issues of continuing academic education had received growing attention among policy makers since the second half of the 1960s, actual provisions of higher education institutions in this field were established neither in systematic nor continuous nor extended forms. Thus, continuing academic education remained a rather unstructured field and did not become an integral part of the West German higher education system.

Typical for this situation is the fact that up to the beginning of the 1990s no comprehensive statistics were available which could provide a proper overview of the types and number of provisions, the number of academic staff involved in continuing academic education, the number of participants, teaching hours and costs. Surveys conducted in 1983 and 1987 showed 885 and 1,076 provisions or activities by higher education institutions with 29,700 and 71,500 participants respectively. Individual involvement of academic staff in continuing academic education activities of other providers was and still is considerably higher than institutional involvement. The reasons for this are not only lack of facilities and proper remuneration but also the fact that higher education institutions have a monopoly only in first degree academic education and not in continuing academic education and that they consider the former still as their ultimate priority. At the beginning of the 1990s, the share of West German higher education institutions on the market for continuing academic education was estimated to be between 5 and 10% (Lullies, 1991), although the number of provisions and the number of participants had increased considerably over the years.
This somewhat sorry state began to change in the 1990s, and will be discussed in the next section, after an outline presentation of the developments in East Germany up to the end of the 1980s.

The GDR higher education system was explicitly developed after 1949 to provide this type of education to those who had traditionally been away from it, i.e. workers, peasants and their children. The workers' and peasants' faculties established in the early years of the German Democratic Republic served to provide the necessary entrance qualifications for access to higher education to these target groups. We will not go into the depths of complex and refined definitions of social class origin here, because that would merit a special contribution. Still, distance and evening studies as well as continuing academic education defined as distinct from so-called “direct studies” became an important, well accepted and well facilitated task of East German higher education institutions since the beginning of the 1960s.

Although social class origin was not used as a criterion for access to continuing academic education, students were delegated as a rule from their work place and needed respective support and references. The number of participants in continuing academic education was centrally determined at state level according to economic planning based on projected demands of qualifications from the enterprises and industries. Nevertheless, for many who had been refused access to higher education directly after school, e.g. for political reasons, continuing academic education was something like a second chance. Overall, the number of provisions, teaching staff, participants and teaching hours was rather high and facilities and infrastructure were good. The following figures can support this statement.

Between 1960 and 1970, the number of new entrant students in GDR distance studies (including evening studies during the 1960s) rose from 7,600 to 10,100 and then decreased to 2,300 in 1985. Participation rose slightly again after that to 3,200 in 1989. The proportion of new entrant students in distance and evening studies among all new entrant students peaked as well in the mid-1960s to more than 30%. In 1989, it was 10.7%.

During the 1960s, continuing academic education was established and extended at all higher education institutions in the GDR and participation increased continuously and peaked in the 1980s while distance and evening studies were reduced. In 1989, 77,000 participants were counted in continuing academic education. A majority of them, however, were in provisions offered by companies and enterprises and not by higher education institutions. Still, about one fifth of teaching in higher education institutions occurred within the framework of continuing academic education. Table 1 shows provisions of continuing academic education by East German higher education institutions in 1989.
OPPORTUNITIES AND THREATS FOR CONTINUING EDUCATION IN GERMAN HIGHER EDUCATION AFTER 1989

In the course of German unification, basically restructuring and renewal of the East German higher education system followed the West German model. For continuing academic education this meant only a marginal role in all important policy documents. For the Fachhochschule type of institution, which did not exist in East Germany before but was newly established, only few opportunities for continuing academic education were included in the planning framework, while East German universities had to deal with huge reductions in staff and possibilities for continuing academic education. Comparing East and West German developments in the field of continuing academic education in the 1990s, we find two contrasting trends: cut backs and reductions in East German higher education institutions, increased importance as well as more activities in West German higher education institutions.

In order to provide some ideas about the dimensions under consideration here, the respective developments in East and West Germany will briefly be outlined. In East Germany, the starting point in 1989 was a ratio between regular (first degree) students and participants in continuing academic education of 100:87 and a ratio of respective teaching hours of 100:20 (Graeßner and Lischka, 1996). In the field of distance studies which must be counted as an important part of continuing academic education, access became more open and the spectrum of possibilities was extended but at the same time the spectrum of subject areas open for distance studies was reduced and staff and facilities at universities were cut back. In addition, the former close link between work or professional activities and continuing academic education and distance studies was lost due to the economic crisis and led to a considerable decrease in demand as well.

For a few years, Fachhochschulen were given the task to offer so-called bridging courses and additional study programmes to upgrade and requalify former

Table 1. Continuing education at East German higher education institutions (1989)

<table>
<thead>
<tr>
<th>Provision</th>
<th>Number of Participants</th>
<th>Teaching hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate study programmes</td>
<td>299</td>
<td>8350</td>
</tr>
<tr>
<td>Study courses</td>
<td>2159</td>
<td>68110</td>
</tr>
<tr>
<td>Guest studentships</td>
<td>42</td>
<td>860</td>
</tr>
<tr>
<td>Total</td>
<td>2500</td>
<td>178930</td>
</tr>
</tbody>
</table>

graduates from specialised post-secondary schools with degrees in engineering and economics/business studies, because their diplomas were not recognised in West Germany. However, participation in these courses remained considerably lower than expected.

Whereas the number of study programmes in continuing academic education hardly changed between 1989 and 1994, the number of shorter course programmes decreased by more than three quarters and the number of participants in these shorter programmes decreased by 87%. In contrast to full study programmes, shorter course programmes (lasting typically from a few days up to a few weeks) are mainly addressed to participants from working life with a previous higher education degree. Access depends on whether the employing organisation will grant time for participation, and courses usually have higher fees. The continuing instability of the East German economy leads to the paradox that such programmes are needed objectively to a rather high degree but actual demand is rather low (Lischka, in Buck-Bechler, 1997). The overall number of participants in the various types of continuing academic education offered by East German higher education institutions decreased and was calculated in 1994 to be slightly less than 30% of what it was in 1989 (in distance education 40% of what it was in 1989), i.e. before German unification (Graeßner and Lischka, 1996). The overall decrease in teaching staff for continuing academic education was calculated to be about 90% in the same time.

In a comprehensive survey carried out in 1994 and covering East and West German higher education institutions, Graeßner and Lischka (1996) tried to determine the status and situation of continuing academic education. Whereas all but one higher education institutions in East Germany responded to the questionnaire, only slightly less than half of the West German universities and Fachhochschulen did. The following contrast between East and West Germany became visible: Although East German institutions had to deal with reductions in staff and provisions or dwindling means, all institutions but one were involved in some form of continuing academic education provision. In West Germany, less than 70% of the universities and slightly more than half of the Fachhochschulen were involved in continuing academic education.

Among the 12 different types of continuing academic education the most important form are study programmes which aim to add to, to complement or to build up existing qualifications, i.e. as a rule a higher education degree plus work experience. These programmes are usually structured in similar ways as regular first degree programmes. In 1994, there were altogether 301 programmes of this type offered by West German institutions, of which 68% were offered by universities and 32% by Fachhochschulen. Less than 4% were organised with the help of external providers.
In the survey mentioned above, a total of 3,192 continuing academic education provisions were counted at West German higher education institutions in 1994, with 11,206 participants. They included distance studies, postgraduate and doctoral programmes, staff development and offers for older people.

Any comparison of the state of continuing academic education at higher education institutions in East and West Germany today can easily arrive at the following paradoxical conclusion. Although the starting conditions for a renewal of continuing academic education in East Germany (know-how, available staff, infrastructure, material resources) were extremely favourable, the current state is characterised by a disproportionate loss of staff. Still, East German higher education institutions not only seem to be more active in their involvement in continuing academic education but they also rate existing framework conditions less often as negative or insufficient than West German institutions do. In contrast, framework conditions for continuing academic education at West German higher education institutions have improved during the last few years but more West German institutions than East German ones rate existing conditions and staff resources as insufficient.

Leaving aside the comparison between East and West Germany for a moment, what kind of typical problems and barriers for continuing academic education are usually mentioned by higher education institutions? These should be taken seriously because they constitute a threat for the intended improvement of the state of continuing academic education in German higher education. It should be kept in mind that the following list of the most prominent issues does not discuss the legitimacy of the stated problems:

- As state institutions the majority of German higher education institutions are subject to cameralist budgeting which means tightly ear-marked budgets and hardly any possibility to generate income and keep it. State legislation varies to a considerable extent and exceptions are made. The survey referred to above (Graeßner and Lischka, 1996) had the following results: the income generated from fees for continuing academic education can be fully retained for re-investment or remuneration of staff by 47% of West German higher education institutions and 23% of East German institutions. Differentiated according to type income can be retained by 48% of universities and 36% of Fachhochschulen.

- Universities consider teaching of regular first degree students and postgraduate education their priority. At least in West Germany, the current “overload” of students leads to the widespread attitude that there is no time and no money to take on additional tasks. As a rule, academic staff who become involved in teaching continuing academic education courses or programmes will not receive additional remuneration and in a majority of institutions not even a reduction of the regular teaching load is granted.
Academic staff interested in teaching in this field will often turn to external providers who are willing to pay adequate honoraria. As to potential participants, it is difficult in times of economic stringency, in particular for small and medium enterprises, to grant their employees the time for participation in continuing academic education and for participants to come up with the fees.

– The problems stated so far lead to the effect that higher education institutions are not very active in advertising or marketing their provisions in the field of continuing academic education so that possible target groups lack information, existing provisions often do not have sufficient client orientation and teaching in continuing academic education has a rather low prestige among academic staff within the institutions. The latter is especially the case for universities, less so for Fachhochschulen and more in West German institutions than in East German ones.

– There is hardly any unified definition of what constitutes continuing academic education. Universities in particular will distance themselves from very practically oriented and utilitarian approaches which are, however, in demand. That makes it difficult to define contents, to determine precisely necessary requirements for participation and respective target groups, to assure a congruence of supply and demand and to secure continuity and sustainable structures.

– Although most universities have technology transfer units and some form of established co-operation with industry and enterprises, the forms of co-operation within the context of continuing academic education are still rather unstable and unstructured. Institutionally, they are frequently marginalised and, again, supply of and demand for continuing academic education are not properly tuned to each other.

– Finally, it should not be overlooked that higher education institutions do not have a monopoly for continuing academic education; the problem of setting fees that conform to market and that of retaining income for reinvestment or staff remuneration make it difficult for higher education institutions to become a regular player on the market for continuing academic education.

NEW POLICIES FOR LIFELONG LEARNING IN GERMAN HIGHER EDUCATION

In recent years numerous recommendations, policy papers, resolutions, catalogues of measures to be taken, have been published by practically all relevant commissions, working groups and policy makers in the field of continuing academic education, including the Federal Government and the Standing Conference of Ministers for Culture and Education of the German States. In this section the main recommendations and conclusions of the seven most important groups of policy makers will be summarised.
The recommendations about continuing academic education issued in 1993 by the German Rectors’ Conference distinguish between work related and general continuing academic education and see both as part of the tasks of higher education institutions, although the first one is deemed to be more important. However, the recommendations also emphasise that teaching regular first degree students must remain a priority for higher education institutions and thus could lead to certain limitations of what institutions can do and provide in the field of continuing academic education. The Rectors’ Conference demands that institutions be given more leeway to retain fees from continuing academic education in order to be able to properly remunerate teaching staff for additional services in continuing academic education or grant them a reduction of their regular teaching load. In the face of existing legal barriers, outsourcing is suggested as a compromise to achieve more flexibility in legal and financial matters, *i.e.* the establishment of external continuing academic education units under corporate law or as consortium of a private enterprise and a university. This would also allow to charge fees that conform to market prices. For the organisation and management of such constructions transfer units should be established.

Further recommendations address improved co-operation between higher education institutions and enterprises in the field of continuing academic education. Better information and co-ordination are seen as necessary in this context but responsibilities for curricula and contents should remain with the higher education institutions.

In his “Ten Theses for Higher Education Policy” (1993) the Science Council defines work related continuing academic education as one of the tasks of higher education. Institutions should develop appropriate and targeted provisions and improve teaching methods and the structure of programmes. It recommends to organise study programmes in continuing academic education as part-time studies with some phases of full-time study in between and possibilities for distance studies. Again we find the demand to create adequate structures for funding and organisation, including a better orientation to needs and demands. Higher education institutions, organisations of the labour market as well as professional organisations should agree on possible forms of certification in continuing academic education, a field which in Germany is as yet rather fluid and undetermined. Closer co-operation is envisaged to improve information about needs in terms of qualifications and to enable the organisation of offers and provisions accordingly.

The Science Council also recommends that higher education institutions should be able to charge fees that conform to market prices and to retain the income from these fees in order to remunerate teaching staff or reduce their regular teaching load.
In 1990, the joint Federal Government and States Commission for Educational Planning and Research Promotion published a report which included a multitude of recommendations about continuing academic education. The Commission emphasised the following issues. Firstly, higher education institutions should become more involved in continuing academic education in the coming years. Apart from participation in activities of external providers, higher education institutions should develop more continuing academic education programmes on their own. In the face of a continuing “overload” of regular students, shorter course programmes and study units should be developed and offered as a first step. Secondly, in the medium and long term the main task of higher education institutions will be to develop full study programmes in the field of continuing academic education with improved curricular structures.

The Concerted Action Continuing Education, a working group chaired by the Federal Ministry of Education, Science, Research and Technology and including representatives of all organisations active in continuing education, has issued ten recommendation papers between 1990 and 1993. In its recommendations about continuing academic education for the region offered by higher education institutions, the Concerted Action arrived at the following conclusions:

- Co-operation between higher education institutions and enterprises in the region should be strengthened and intensified in order to improve offers of continuing academic education and to increase the practical orientation of higher education in general.

- For a stronger involvement of higher education institutions in regional continuing academic education it is not only necessary to assure good communication among co-operating partners but also professional management and adequate infrastructure.

- Continuing academic education should be organised preferably by central units rather than decentralised in departments or faculties. These units need sufficient staff and material resources. However, responsibility for curricula and contents should remain with departments or faculties.

- Higher education institutions are dependent on sustained support from state governments to improve and expand their infrastructure for continuing academic education.

- Co-operation between higher education institutions and external partners in the region should not only be organised and formalised to achieve sustainability. Respective working groups or commissions should also analyse the specific needs for continuing academic education in the region, based on economic and labour market developments as well as existing qualifications and educational provisions.
In its third recommendations about continuing academic education (1994) the Standing Conference of the Ministers for Culture and Education of the German States emphasised the necessity for co-operation among all providers in the field. Continuing academic education is defined as a task of higher education institutions to be fulfilled through participation in activities of other providers and/or development of own provisions. Due to existing financial stringencies, higher education institutions are to concentrate on what they can do best, namely to convey the newest research results, to provide scientific knowledge for the solution of social, economic and technological problems and to assure standards of quality in the field of continuing academic education.

The Working Group University Education for Adults points to the opportunities that arise from strengthened co-operation between higher education institutions and adult education organisations. The Working Group argues that scientific and scholarly knowledge is public property and necessary for the development of democratic societies. New problems and questions that become relevant in politics and social life (e.g. environmental protection, genetic engineering, atomic energy, micro-electronics, peace, employment, globalisation, multi-cultural societies, migration, etc.) result in increased demands for orientation, knowledge and new competencies which can only be satisfied by co-operation in interdisciplinary projects.

Finally, the Federal Ministry for Education, Science, Research and Technology has developed a concept in 1997 for the promotion of the virtual university. In the framework of this concept five different pilot projects have been selected for funding. The aim is to link classroom teaching with elements of distance studies to arrive at so-called modularised “dual mode” higher education as a first step. Virtual learning systems will be developed and offered by networks of several higher education institutions co-operating with each other in the respective projects.

This approach is supported by a new report (1997) published by the joint Federal Government and States Commission for Educational Planning and Research Promotion in which new perspectives for distance studies in higher education are developed. The report also makes recommendations to improve the legal and financial framework conditions for higher education institutions and to improve facilities and infrastructure for continuing academic education.

Looking at all these papers, reports and recommendations we can infer that the issues for which recommendations are made currently are still problem areas in the field of continuing academic education. The issues stated most frequently are: fees and retention of related income by higher education institutions, remuneration of staff, structure of provisions in relation to needs and demands, co-operation with external partners in industry and other providers, curricular content, quality and certification.
IMPLICATIONS OF THE LIFELONG LEARNING CHALLENGE
FOR GERMAN HIGHER EDUCATION INSTITUTIONS:
CONCLUSIONS AND SOME LIKELY SCENARIOS

It seems that German higher education lags somewhat behind developments and status of continuing academic education in other higher education systems with which Germany likes to compare itself. This overview of problems and policies has tried to present some reasons for this. Although existing policy papers and recommendations almost unanimously promote greater involvement and more efforts, there are also many sceptical voices. To summarise the German situation in continuing academic education provided by higher education institutions the following issues should be kept in mind:

– The financial situation of continuing academic education is problematic. But it is worse at East German institutions than at West German ones. Still, the former are more open and more pro-active with regard to continuing academic education due to different traditions and attitudes towards teaching.

– Universities emphasise their academic approaches to teaching and learning and are rather distanced to ideas of professional relevance and practical orientation which are deemed to be tasks of Fachhochschulen. Prestige of teaching in continuing academic education within universities is lower than prestige for research and teaching of regular students. This strict hierarchy of prestige and reputation is less prevalent in Fachhochschulen.

– German higher education institutions have to compete with other providers on a market for continuing academic education without being able to do so. They cannot demand adequate fees, they cannot remunerate their staff properly for taking on extra teaching and they cannot retain income from the fees for re-investment into infrastructure and facilities.

– Recent policy developments in the field of continuing academic education in Germany have been influenced by several factors: a) the growing importance of continuing academic education in international and supra-national contexts; b) the fear that the German higher education system is loosing its attractiveness for foreign students and scholars; c) actual developments in dual mode or virtual teaching and learning might threaten the German higher education system as such if respective provisions are offered on the German market but by institutions from abroad. It is obvious that everybody wants to improve the situation but nobody wants to pay for it.

– Finally, quality issues and certification are as yet unresolved.

To conclude, it is safe to assume that the distinctions and demarcations between first degree higher education and continuing academic education will increasingly become blurred in the next few years. Growing overlaps and reciprocal
influences of the two educational approaches might turn into an “epistemic drift” towards more strongly utilitarian and particularist views of higher education (of which modularisation is only one element). Through continuing academic education two systems are linked more closely with each other. The higher education system on the one hand and the labour system on the other. The reciprocal influences of both will lead to a higher degree of practical relevance and orientation of science and scholarship but also to further scientification of labour or professional work. But this is not the only effect. The principles on which these two systems are based, *i.e.* utilitarian the one, critical and reflective the other, are mixed in continuing academic education and the question is still open whether both systems will be changed, whether the utilitarian principle will eventually prevail or whether the critical and reflective principle will survive (Kommer, 1998).

It is tempting to come up with “brave new world” scenarios in this context. Various articles in journals and conference presentations in recent years have developed a vision of the future university turning it into one of the many post-modern models of “multi-versity”. In contrast, actual key administrators and heads of universities and other higher education institutions in a survey have developed a vision for their institutions which sympathises highly with the idea of knowledge as public property and the university as a forum to discuss, argue about and appropriate this knowledge (cf. Meijers and Nugteren, 1997). But neither quality issues and definitions of standards of excellence should be overlooked nor should it be forgotten that the principle of critical reflectivity requires a certain distance from everyday utilitarian principles of cost, efficiency and fine-tuning to competencies and qualifications in demand from the labour market for usually just a short time.
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Reversing the Flow in Higher Education: Necessary Changes in the Training of French Engineers

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ABSTRACT

The world of business has changed, and higher education institutions, and French engineering schools in particular, have adapted their curriculum to provide increased training in the field of management.

Nevertheless, the higher education system is still frequently criticised for not being able to produce good engineers. Why is this so?

In fact, businesses have changed more than is realised. They no longer treat engineers starting their career as they did 15 or 20 years ago. French engineers must now possess real methodological skills enabling them to solve complex problems – skills that are by no means easy to master.

With the growing emphasis on quality in business, “reversing the flow” has become a popular catch phrase to describe a radical change in the way a problem is approached. Higher education is also “reversing the flow” in a number of fields, and in this paper we present three examples of new approaches to the teaching of: technology, management and fluid mechanics.

These new approaches increase students’ interest in these subjects so that they study more effectively and retain what they learn, while mastering the necessary methodological skills.

As a result of the constant pressure from industry, engineering schools – and the other higher education institutions involved in the training of engineers – have been adapting their curricula.

Their main objective has been to make it easier for their graduates to take their place in the world of work. To this end they have introduced new disciplines, such
as communications, economics, and business-related fields such as marketing, management, law, quality, etc. The most innovative schools have even introduced courses in epistemology and most recently what are known as “group projects” comprising four to eight students.

Yet industry continues to show a relatively high degree of dissatisfaction with the training provided, but without clearly specifying the shortcomings, so that what is needed is a careful interpretation of the needs expressed by business. Just such an analysis has been carried out by C. Garcin, a professor of physics at the University of Paris VI, in conjunction with the establishment of a new engineering school (IFITEP). He reached the following two broad conclusions:

– Businesses no longer view the careers of engineers as they did 15 or 20 years ago. French engineers must now possess genuine methodological know-how enabling them to solve complex problems.

– The working methods of engineers in business have changed considerably, and now require a more cross-cutting approach and greater interactivity among the various functions of businesses (marketing, commercial, technical, financial functions, etc.), in particular when they use project-based management.

Professor Garcin then sums up what seems to be the crux of the problem: “Engineers do not know how to frame a problem, but they are skilled at finding a solution.”

But since this shortcoming is never stated as such by businesses, schools have yet to adapt their curricula so as to train engineers in solving complex problems.

THE PROBLEM

The ability to solve complex problems is now a key skill required of graduates, for although 10 or 15 years ago businesses took the time to train newly-qualified engineers in fields not taught in schools, this is far from being the case today. Previously, businesses would give a newly hired young engineer a problem to which they knew at least one solution. Today they can no longer afford to do so and give young engineers complex problems to which they do not yet have a solution. What is more, they expect young staff to be creative and innovative and also to be more effective than older engineers, since they are better acquainted with new techniques.

At the same time, countries are having growing difficulty in funding their higher education systems, forcing schools to cut costs and reduce student/teacher contact.

Lastly, engineers must possess a broad scientific and technical culture.

For those in charge of engineering programmes, the combination of these factors poses a seemingly insoluble problem:
fewer student contact hours.

- The need to teach more material to keep abreast of the developments in research.

- The need to provide more courses in human sciences, teamwork, communications, humanities, foreign languages, project management, ethics, philosophy, etc.

- The need to train students to analyse and solve complex problems.

As a result, it is becoming increasingly difficult to design and implement programmes.

**SOME POSSIBLE RESPONSES?**

A number of experiments, some of which have been adopted on a permanent basis, have been carried out in most French engineering schools. But they only represent a fraction of what is required, a rapid analysis showing that:

- Most human sciences modules are designed as standard courses (lectures, tutorials, practical assignments).

- In line with the principle of scientific specialisation, these courses are taught by humanities professors. But how can project management be taught effectively if those teaching it are at best ignorant of it, and at worst opposed to it?

- If the low weighting given to humanities courses in a student's overall grade is added to these factors, it is easy to understand why young French engineers have a high level of “book knowledge”, but little practical know-how.

As a result, the needs of industry still go unmet, although businesses are unable to say clearly why this is the case. When faced with a situation in which everything is in a state of flux, researchers invariably try to find the unchanging factors. In the present case, methods can be considered to be the unchanging factors, since they change very slowly in comparison with knowledge, which in fields such as biology or computer science can be obsolete before students complete their education. Methods can therefore be considered as the unchanging elements that engineers can use throughout much of their working life.

Mathematical methods alone are not sufficient to solve industrial problems. They are only one component of problem solving, and it takes more than 12 years (from the sixth grade to the end of higher education) to provide students with training in mathematics – and even then with mixed results.

Employers need methods in order:

- To create a product, service or firm.

- To solve a complex problem for which there is no known solution.

- To manage projects and teams.
– To take risks and responsibilities.
– To ensure smooth human relations.
– To be innovative and creative.

Currently, no engineering school can guarantee that its graduates have the necessary know-how and modicum of experience with methods that will enable them to tackle the tasks on this list. Solving a complex problem is probably the most poorly taught subject in engineering schools in all European countries (and perhaps throughout the world).

This is due to the pre-eminence of theoretical knowledge over practical know-how in the curricula. It is easier to evaluate the knowledge students have acquired than the know-how they have mastered. French teacher-researchers are content to assess student knowledge by assigning exercises, which are called “problems”, thus only adding to the confusion. But now, given the range of methods and know-how that students must master, it is obvious that unless all teachers, whether in the exact sciences or the humanities, include some aspect of methodological training in their courses, students will not understand the vital importance that mastering methods will have for their future careers. This will result in employers shunning engineering school diplomas, preferring to rely on skill certification procedures. Teaching methods is a demanding task, but one that is indispensable if engineering degrees are to retain their value.

With the growing emphasis on quality in business, “reversing the flow” has become a popular catch phrase to describe a radical change in the way a problem is approached. The remainder of this paper will be devoted to three examples of how the “flow has been reversed” in engineering education in the teaching of courses in: fluid mechanics, technology, and management.

This new teaching-learning approach has made it possible to raise students’ interest and improve the quality of their individual work, enabling them to retain what they have learned more effectively while acquiring methodological skills. These three examples are drawn from the various experiments conducted at the “INSA de Lyon”, showing how methodological practices can be introduced into a course.

**Example No. 1: fluid mechanics**

*How an exercise can be transformed into a complex problem, or how a minor change can have a major impact*

This initial example is drawn from the teaching of a teacher-researcher in fluid mechanics, C. Henry, in a standard course consisting of the three components of lectures, tutorials and practical assignments.
It is widely admitted that the fact that students are able to complete an exercise successfully does not necessarily mean that they have fully mastered the corresponding concepts of the course. C. Henry wanted to ensure that students actually acquired these concepts. Tutorials are weekly exercises conducted during two-hour periods, with one exercise completed per period. He simply changed the presentation of his exercises so as to transform them into complex problems, requiring students to put questions (preferably good ones), to find the missing elements and to take risks in evaluating the unspecified or unknown data. The initial presentation of the exercise is given in annex. The new presentation is as follows:

“I am the director of the XYZ company and I wonder if it is possible to make some savings in water supply costs by filling up a tank (placed on the roof) during the night. The plan of the installation is as follows. You have two hours to provide the answers.”

The group of students (25 to 30) is divided into groups of six. No group can begin to make any calculations before it has presented its strategy to the moderator. The groups must prepare this strategy through intensive teamwork.

This type of exercise forces students to work in groups and to devise a method for solving a complex problem, which are two of the main types of know-how that schools teach the least effectively. It also requires students to consider the teacher as a source of information, and not only as the sole source of knowledge. They must:

– Develop a strategy for defining and then solving the problem.
– Find the missing information (no information is provided). The director of the company can only provide the external dimensions, but the teacher can suggest catalogues or design charts, which forces students to make choices
that involve a risk of error. They may even have to make calculations for two or three hypotheses before choosing.

This brief example shows that it is not necessary to invest a great deal of time in changing a course in order to place students in conditions more similar to those they will find in industry. Nor does it take any more of the students’ time than it does that of the teacher. What is more, students look forward to participating in these exercises, which was not the case using the former method, and absences are nil.

For this method to be successful, teachers must be student-oriented, i.e. concerned with enabling students to acquire skills as well as knowledge, even though it is not possible as yet to evaluate the extent to which they have mastered these skills.

Examples 2 and 3: technology and management

Reversing the flow: from the phenomenon to the concept

Bearing in mind the amount of material to be taught, only a very short amount of time is allocated to the teaching of either technology or management. This led teachers in these fields to redefine teaching methods along similar lines, even though they were not in contact with each other. Both defined a project-based curriculum, for the following reasons:

– When the traditional method is used, students listen to a lecture that presents them with concepts, but they do not work on these concepts again on their own. A few months or even weeks later, they are found to have virtually completely forgotten what they had “learned”. This is due to the evaluation system, which does not weight these subjects sufficiently within the overall programme of subjects studied. Yet a number of studies show that all students gear their work to the evaluation system used, a fact that any teacher can observe. Consequently, the low weighting given to courses in the humanities does not encourage students to study these subjects in depth.

– It is out of the question to consider changing this weighting system.

– It is impossible to consider increasing the number of hours devoted to these “complementary” fields – rather, the trend is towards reducing the number of hours.

– Teachers are not particularly happy with the passive students they generally encounter in lecture courses.

Consequently, it is necessary to involve students in their own education process in order to give them the desire to learn more about a given field.

When students become involved, it is certain that they will devote a minimum of individual work to the subject and will retain for some time concepts that they
have had to apply involving difficulties they had to overcome. This approach requires teaching staff to redefine course objectives and working methods carefully, since teachers are no longer the only source of knowledge, but merely one resource among many. Both the technology staff, and somewhat later the management staff, decided to eliminate traditional courses and replace them with group projects. This choice was justified by the success of the technical projects in which students had shown themselves to be very highly motivated. A major project can motivate students highly enough to carry out the work required to meet the objectives being sought, *i.e.* to give them the skills they need to be successful in their professional life. This also assumes that the range of conceptual knowledge must be reduced and refocused.

But is it better to have a set of ambitious objectives of which students retain little or nothing, or a few basic objectives that they will remember throughout their lives?

It is obvious that course objectives must be redefined, and teachers must be willing to be only one resource among many rather than the sole source of knowledge.

**OBJECTIVES OF THE TECHNOLOGY COURSE**

- Students must be the mainspring of their technological education.
- They must discover how to design a mechanism (basic fixed and moving parts).
- They must determine the cost of the mechanism.
- They must build what they have designed.

This programme consists of 80 hours in the curriculum and has fairly considerable resources at its disposal, *i.e.* CAD work stations and a budget of FF 900 per project. An example of a completed project and of the specifications given to students is presented in annex.

**OBJECTIVES OF THE MANAGEMENT COURSE**

These objectives are very similar to those of the technology course:

- Students must be the mainspring of their education in management.
- They must discover the basics of marketing, finance, accounting and labour and corporate law.
- They must learn that entrepreneurship does not only apply to others and that creating an enterprise is not especially difficult.

This programme consists of approximately 50 hours in the curriculum. Several cover pages of business plans designed by students are presented in annex.
GENERAL OBJECTIVES

Students should practice the group project management method taught in the "INSA de Lyon" in order to master the three following fundamentals:
– Ability to define objectives (framing the problem).
– Organisation and teamwork.
– Time management.

RESULTS

The results of both experiments are fairly similar:
– A genuine involvement of students in project groups, which led them to double or even triple the time they were supposed to spend on the project.
– Students show a real interest in technology and management, as their comments show.
– They had an opportunity to develop their creativity, willpower and self-confidence by learning in real work situations.
– They were forced to leave the protective cocoon of the school in order to tackle the realities of the outside world, i.e. interviewing passers-by, telephone interviews, making appointments, occasionally encountering difficulties.
– They experienced the project management method and saw the importance of the fundamentals outlined above.
– In terms of knowledge, students discovered the fundamentals that they had to apply in practice. The conceptual aspect will be studied at a later stage.
– A further drawback inherent in the method is the difference in what each student learns. Depending on their involvement and the subjects dealt with in each group, not all students understand the concepts equally well.

CONCLUSION

Conclusion on project-based education

Project-based education is an effective method of stimulating students' interest and motivating them to work on a "secondary" field, which would not have been the case in a traditional course. However, without a phase of conceptualisation based on the experience of the project, the level of knowledge will be lower and more uneven from one student to the next. On the other hand, that knowledge will be firmly rooted, and an examination of courses organised along conventional lines in one of the 10 departments showed that students retained nothing of what
they had learned in traditional courses. Nevertheless, it seems difficult to apply the project-based method to the exact sciences (physics, for example), even though this is being done in some European universities.

**General conclusion**

Curriculum changes cannot be introduced unless teachers are willing to co-operate and will only be successful if all teachers become actively involved. This is why it is difficult to make changes in education, but a new situation is emerging because of the changing behaviour of firms and students and the new skills graduates require. Changes need to be introduced among those segments of the teaching staff who so wish, while the other segments continue as before, but schools should not hesitate to introduce successful student-oriented methods as widely as possible.
Annex 1
THE INITIAL PRESENTATION OF A PROBLEM IN FLUID MECHANICS

The hydraulic installation shown below consists essentially of a pump that pumps water into a tank in which the water level may be considered to be constant.

The suction and discharge pipes have a constant diameter D and a total length L. The absolute roughness of the pipe walls is ε.

1. Assuming that the Reynolds number is sufficiently large to have a "hydraulically rough" flow regime, determine the linear pressure loss coefficient λ.

2. Assuming that the installation has various individual characteristics, including the following pressure loss coefficients:
   - inlet strainer $K_1 = 0.3$,
   - bend no.1 $K_2 = 0.2$,
   - bend no.2 $K_3 = 0.3$,

determine the total pressure loss of the installation on the basis of the flow $q_v$, assuming that the water has lost all kinetic energy when it empties into the upper tank.

3. The characteristic curve of the pump giving the real height $H_r$ being represented on the attached graph, on the basis of the flow $q_v$ for an operating regime of 1 450 l/min, calculate the flow into the upper tank.

4. Check that the hypothesis regarding the Reynolds number is valid.

5. If the pump has an overall yield of 0.85 for this operating regime, what is the power absorbed?

6. At what point of the installation is there minimal pressure? Is there a danger of cavitation? Why?

Numerical data:

- $L = 200$ m,
- $D = 0.2$ m,
- $\varepsilon = 1.2$ mm,

atmospheric pressure $p_a = 760$ mm of mercury,
saturated vapour pressure of water $p_v = 15$ mm of mercury
mass per unit volume of water $\rho_e = 1000$ kg/m$^3$
kinemical viscosity coefficient of water $v = 10^{-6}$ m$^2$/s
mass per unit volume of mercury $\rho_m = 13600$ kg/m$^3$
The Changing Role of Greek Universities

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ABSTRACT

This article will attempt to analyse the changes currently under way in higher education in Greece, in particular concerning the programmes of study offered. These changes seem to be having a decisive impact on the institutional and administrative structure of Greek universities. The main characteristics of these changes are greater diversity and flexibility of programmes. First of all, the public targeted seems to be changing in two ways. Universities are trying to address a much broader range of age groups, and they are also targeting groups with different education levels, for example, by participating in programmes aimed at combating social exclusion. Next, university departments, which formerly played a predominant role in the functioning of universities, have gradually become less important as initiatives by individual teachers and intra- and/or inter-university co-operation among groups of teachers have developed. At the same time, the fact that some programmes of study are now funded by different sources has fundamentally altered the traditional relations within the university and has opened up a new labour market in universities that is independent of the Ministry of Education. Universities also face competition from various other types of tertiary education institutions and from the different informal and flexible programmes that they themselves organise. Consequently, Greek universities appear to be trying to find their identity and role in a rapidly changing society.

Greek universities are currently undergoing profound changes. These changes are both rapid and multidimensional and are fundamentally transforming the traditional organisation and functioning of universities. In this article, we shall focus on the changes in the programmes of study offered by universities that are having institutional and administrative repercussions on how they operate.

Of course, since these changes are quite recent and are sometimes still under way, it is not possible to conduct a full-scale assessment or analysis. We shall
therefore confine ourselves to making a systematic presentation of these changes and to addressing aspects that currently seem to be unclear, problematic and at times contradictory.

This reform and restructuring of the university is clearly not unique to Greece. In recent years, both major international organisations (OECD, UNESCO, etc.) and international university organisations (CRE, EAIR, etc.) have devoted a great deal of work to the situation of universities [EEC/TFHR (Task Force Human Resources, Education, Training and Youth) 1990; Borrero Cabal, 1995; OCDE, 1996] . At the same time, the European Commission (EC) has implemented an educational policy based on the Maastricht Treaty (Articles 126 and 127, but also 118 and 123) which radically affects the structure and functioning of national education systems at all levels, including the university (Panethimitakis et al., 1997).

The Greek government seems to be accepting EU policy without reservation either by choice (Simitis, 1997; IPEPT, 1997; Stangos, 1998) or due to institutional obligations, i.e. the Maastricht Treaty (IPEPT, 1994) or for strategic reasons in order to ensure that it receives EU funding (Greek Ministry of Labour; 1994; Stamelos, 1997). This approach seems to have resulted in some serious institutional contradictions and in decisions being made without prior consultation with the institutions concerned.

An example of these contradictions is provided by Law 2327/95, under which graduates of Institutes of Technological Education (ITE, BAC + 3 years) are allowed to enrol in Diploma of Advanced Studies (DAS) programmes in universities (BAC + 4 years). Yet despite this change, the entrance examinations for ITE graduates who wish to enter the second year of the university have not been eliminated. As a result, an ITE graduate can enrol in DAS level studies in a university department (in general), but is also entitled to take the special university entrance exams for ITE graduates. Graduates who pass the exam may enrol in the second year of university, but only in departments offering programmes in the same field as their previous studies.

A case of a decision being made without prior consultation is illustrated by the reaction of universities to Initiative 3.1 (on the extension of Tertiary Education-New Programmes of Study) of the Operational Programme for Education and Initial Vocational Education (EPEAEK), an EU-funded programme of the Education Ministry: “the implementation of such a major project without consulting the universities and institutional bodies (e.g. the University Council) constitutes a violation of institutional rights...”.

Until recently, Greek universities determined the programmes of study offered, with departments as the basic organisational units. Each department encompassed a field of knowledge (Law 1268/82, Article 6.2) and organised a long-term programme of study (lasting 4 academic years) leading to a degree recognised
by the State. Moreover, within the Greek tradition, departments only rarely offered third-cycle programmes (DAS), since the doctoral thesis was prepared on a highly individual and personalised basis. The predominant body within a department was its General Assembly (GA).

This linear, rigid and one-dimensional model of functioning currently seems to be changing into a complex, multidimensional and much more flexible model, in which departments with their GAs are no longer the dominant bodies.

The existing model is being extended and diversified with the development and generalisation of DAS programmes, and departments and their GAs no longer have a monopoly on the establishment of DAS programmes. A DAS may now be established through inter-departmental and/or inter-university co-operation within Greece or with foreign partners. What is more, this co-operation may be established by a group of teachers acting independently as well as by decision of a GA.

Secondly, through each university’s Research Board, chaired by the Vice-Rector for Financial Affairs (a body that gives universities greater autonomy through the income generated by universities’ participation in various research programmes), it is now possible to create programmes at different levels, with or without the agreement of the GA of one or more departments, in one or more universities. These may be short, medium or long programmes. Moreover, they may lead either to an official diploma (as for “free choice” programmes [PSE], programmes for the enhancing the skills of primary school teachers who are graduates of the former Pedagogical Academies, etc.) or a mere attestation of study. This attestation may be professionally oriented (such as those for programmes for “retraining” primary school teachers with non-university diplomas, continuing training programmes for teachers, etc.) or may lead to a simple attestation without a clear professional value [such as attestations from a university Vocational Training Centre (KEK)].

Thirdly, under the EU Socrates Programme, through the International Relations Units of Universities and “Socrates Contracts”, university teachers who so wish can establish European programmes of studies at various levels (CDI and CDA) without going through their departments.

Fourthly, through the various university research institutes and research centres in co-operation with certain ministries (i.e. the Ministry of Labour, International Affairs, etc.), it is possible to develop programmes targeting individual groups (such as foreign residents).

Lastly, through institutions that are linked to the university (i.e. teachers’ training colleges, institutions for the continuing training of primary school teachers, etc.), a university department or an inter-departmental co-operation scheme or a group of university teachers can establish programmes of study and/or practical training (i.e. continuing training programmes for primary school teachers).
It is therefore clear that Greek universities are changing. University departments no longer define themselves unilaterally through a programme of study, and they are losing their monopoly over creating programmes. Individual teachers, schools and inter-university partnerships now have a broad range of possibilities for setting up programmes. Ties between teachers and their departments seem to be loosening, inasmuch as most of a teacher's university activities may be unknown to the GA of his or her department. Lastly, teachers may be running programmes in the department's buildings of which most teachers are unaware. For example, at present a teacher in educational sciences may be teaching in one or more programmes of conventional studies, “free choice” studies, retraining of primary school teachers with non-university diplomas, continuing training, all sorts of seminars lasting different lengths of time, international studies at various levels, and of course he or she may also be supervising or advising students preparing doctoral dissertations. This means that only the courses taught in conventional programmes necessarily come under the supervision of the GA and are known to all its members. Everything else can either be run through the GA or independently. Moreover, in cases in which the GA organises a “non-conventional” programme, all the department’s teachers may not be required to participate in it. The practical problems raised by this situation are far from negligible, as is shown by the internal circular sent by the Chairman of the department of Educational Sciences at the University of Patras: “teachers in the department are asked to inform the department’s classrooms so that the necessary planning may be carried out” (circular of 24/3/98).

Consequently, a department’s title now only refers to its programme of conventional studies. The other programmes offered (whether they lead to an official diploma or merely an attestation) do not necessarily reflect the scientific and institutional definition of the department. This has led to an informal erosion (since the legislation has not been amended) of departments’ control of their collective identity, in favour of greater specialisation on the part of teachers. This trend increases teachers’ freedom by giving them broad leeway to initiate programmes. Thus the system has become significantly more flexible and a very broad range of educational services are offered by a department’s teachers or by groups of teachers in one or more universities (at least by those who are interested in this kind of activity). This is clearly seen in the new “free choice” programmes (PSE) or the DAS programmes adopted by the Ministry of Education.

These developments also point to a second change. Since many departments have a limited number of teachers, it is highly unlikely that all these programmes will be taught only by the teachers in the department, which means that a new and dynamic labour market is opening up within the university. As universities accept and implement programmes funded by various so-called “non-traditional” sources, this market will expand continually and will offset the shortage of new university
posts established by the Ministry. But this situation raises at least two recurrent questions. Firstly, what diplomas should be required of teachers in these programmes (i.e. what level of studies)? Secondly, what labour rights will these employees have? The first question refers to the current practice of employing students to teach these courses, whether they are preparing a doctoral thesis, enrolled in DAS programmes or even only graduates of various university programmes. The second question concerns the experience of contract teachers in universities, who have the status of “temporary teachers” under Presidential Decree (PD) 407/80, and the extremely late payments to them in the various programmes. Nor is the international experience in this regard any more reassuring, as the case of penenes in Spain clearly demonstrates. Thus experience shows that this is a highly insecure type of professional relationship, in which contract teachers are not even entitled to regular payment (Marti Font, 1996; Liatsou, 1996; Eleitherotipia, 1997; Carabana, 1998).

A third change seems to be the considerable diversification of the public being taught by universities. On the one hand, universities are trying to teach a much broader spectrum of ages, and they are targeting groups with different educational levels on the other. The first case refers mainly to “lifelong education/training” programmes, through which the university is adapting to the general trends and requirements of our time. But the second case has introduced a completely new dimension inasmuch as the university is teaching groups that do not necessarily hold a baccalaureate [end of secondary school degree], since the programmes initiated by the vocation training centres (KEK) aimed at combating social exclusion are in principle intended for people with sub-baccalaureate educational levels.

A fourth field in which problems have arisen is due to the different kinds of diplomas and attestations granted by universities. Universities are under pressure to include certain of them among the formal criteria used in selecting among applicants to conventional programmes, and this is a genuine problem that must be solved (i.e. in the case of DAS programmes).

Until recently, the university mainly granted specific degrees recognised by the State. But with the growing variety of programmes offered, universities now also grant attestations that have a somewhat vague legal status and are of very different practical value.

Universities are also undergoing two-fold pressure to take non-university diplomas or the attestations they themselves grant into account when selecting among applicants for the various university programmes, whether they are conventional or not. The first source of pressure stems from the conflictual relations existing between universities and the ITEs. This situation was created by Law 2327/95, which gave ITE graduates the right to apply for DAS programmes in universities, and by the criteria laid down for programme funding (i.e. within EPEAEK, “free
choice” programmes, DAS, professionally oriented programmes for the continuing training of secondary teachers, etc.).

Furthermore, the fact that ITEs have developed Master’s programmes has radically altered the structure of tertiary education by depriving universities of the prerogative of granting distinctive diplomas and in fact jeopardises the importance of universities as autonomous institutions.

This education policy has no doubt been influenced by the EU’s policy, as it has been defined in certain working texts, both official (Commission of the European Communities, 1991) or otherwise (IRDAC, 1991), since the beginning of the 1990s. Under this policy the expression “tertiary education” has replaced the traditional names of the institutions that make up tertiary education in order to make them more uniform. However, the initial model, *i.e.* the United Kingdom’s experience with polytechnics, is radically different from the respective Greek experience. In Greece, ITEs were never connected with universities and had a very different purpose from universities. Moreover, it was because of this difference that ITEs had been funded by the World Bank, with a view to filling a gap in the Greek education system (World Bank, 1980). For this reason, the content of their studies was and still is oriented more towards vocational training than research. In addition, the educational level of their teachers is very different from that of university teachers. Lastly, studies in ITEs are still shorter (3 years). To show the current contradictions of the education system, it suffices to ask the following question: why would applicants choose to attend a Polytechnic School Department with a programme lasting 5 years, when they can choose an equivalent three-year programme in an ITE and then enrol in a DAS in Greece or abroad after graduating?2

In addition to the problems stemming from EU policy, Greek universities also face a specifically Greek problem, *i.e.* competition from a type of private education institution (Centres of Liberal Studies, CLS) operating outside the official education system. Recently these institutions have begun to co-operate with foreign universities (mainly in the United Kingdom, but also in Eastern European countries) and can grant various levels of diplomas from these universities (Bachelor’s and Master’s degrees, PhD). The Greek State does not recognise these diplomas, for in Greece private universities are not authorised under the constitution, but nevertheless the State does not prohibit this kind of “co-operation”. As a result, there is no type of monitoring or assessment of the functioning, educational activities or teaching staff of these institutions. This has led to the labour market being invaded by holders of these degrees (supposedly from UK universities, for example) of highly dubious quality and that are naturally held in low esteem. This has resulted in a contradictory and confused situation with respect to the recognition of diplomas within the EU. At the same time, it raises a clear and pressing issue regarding the quality of EU university diplomas.
At the same time, the uncontrolled operating of CLSs erodes the structure of the education system and devalues the education process. For instance, in their publicity these institutions promise working people without university diplomas that they will be able to enter a Master's degree programme. They recognise two years of study in IEKs (vocational training institutes – a type of public or private non-sequential education institution intended for baccalaureate-holders or those who have completed their compulsory education) as equivalent to years at university and propose to IEK graduates that they continue their “university” studies in order to obtain a Bachelor's or Master's degree (supposedly from a UK university). Lastly, they offer university and ITE graduates the option of enrolling for a diploma at either the Master's or PhD level.

Be this as it may, it is odd that the universities have either not reacted to these developments or have reacted ineffectively. At times they have even accepted this situation tacitly in order to obtain funding for their programmes. Of course, some institutions, such as the Athens Polytechnic School or the University of Patras, have reacted more vigorously than others (Phlessa, 1998). But it is unsure whether this was an independent reaction on the part of these universities or a reaction of professors who are members of professional associations, such as the Greek Chamber of Engineers (TEE). The TEE is probably the only professional association that follows, understands and regularly and conscientiously takes a stand regarding the changes that have occurred (I Imera, 1998). Consequently, defending the professional rights of university graduates is the major challenge facing the university, which will determine the future and status of the university in the years to come, and the education system must be reformed and rationalised in this perspective. For example, what are the qualifications required in the teaching profession? How are they acquired? Who can work as a teacher and where? Why, for a single profession, such as nursing, are there currently schools of such different levels (i.e. universities, ITEs, vocational training institutes – IEK, technical and vocational lyceae – TEL, and vocational schools – TES?).

The recent adoption of a common charter by the ministers of four European countries (Le Monde, 1998) on the harmonisation of university diplomas (bachelor's after three years, master's after five years, doctorate after eight years), will in all likelihood influence EU educational policy in coming years, which will in turn influence Greek policy. This may well lead to a major upheaval in the organisation of Greek universities and sharp tension between universities and ITEs and vigorous reactions on the part of professional organisations regarding professional rights.

However, competition from other tertiary education institutions is not the only pressure felt by universities, for they must also face the pressure created by the informal attestations they grant. This is due to the funding criteria of EPEAEK programmes, which promote including these attestations among the criteria used in selecting among applicants for official programmes: “Departments responsible
for the project must (...) state the conditions in which attestations of study shall be taken into account in admitting students to the DAS programmes of partner institutions" (EPEAEK, Initiative 1.3a “Continuing training programme for secondary teachers”, chapter “Criteria for evaluating projects”). But it is obvious that the design, content, implementation and evaluation of official programmes are completely different from their equivalent in informal programmes leading to a mere attestation.

Another field in which problems have arisen is universities’ participation in programmes funded by various ministries other than the Ministry of Education. It is obvious that universities belong to the formal, sequential system supervised by the Ministry of Education. This is a longstanding tradition, and universities have developed their goals, characteristics, rules of operation and specific identity within this framework. But when universities co-operate with another ministry (such as the Labour Ministry in a programme for combating social exclusion), problems can potentially arise inasmuch as these ministries are not required to follow the priorities, approaches and rules prevailing in universities. This poses a serious problem for the organisation and functioning of universities.

In conclusion, there is every indication that Greek universities are changing, like all education systems. This is a logical development inasmuch as the education system is a social institution that must meet the needs of a given society in a specific historical period. Thus, in a rapidly changing world in which ways of life are undergoing radical change, in which the organisation of social and working life is being completely altered by technological innovations and new products and the globalisation of the labour market, the traditional clearly structured and sequential education system is “exploding”, breaking up and being transformed into parallel, successive and intercommunicating lifelong learning networks. As a result, the education process, which formerly took place in a linear fashion during a period of schooling followed by a well-defined professional life, is undergoing fundamental changes. And this is obviously affecting universities.

But until recently universities played a concrete and well-defined role. They transmitted existing knowledge, produced new knowledge and trained specialists who were themselves able to produce new knowledge (Tsaousis, 1996). It constituted the higher education cycle of single, linear and sequential system of education that came to an end at a specific age. Moreover, given the limited number of students and the social status and professional prerogatives enjoyed by their graduates, universities were coveted institutions. And all graduates who could influence decision-making in the field of education tended to protect, extend and perpetuate their privileges.

This situation is now changing. The university has entered an era of mass education and is diversifying, broadening its programmes and targeting groups of
different ages with very different needs. At the same time, it is subject to pressure from parallel institutions in the official education system and informal and non-sequential educational activities. Furthermore, university diplomas (Bac + 4 years) do not lead to a stable and clearly defined profession and are not an effective means of social promotion. Consequently, a persistent question remains: in the new educational landscape, does the university have a special role to play? This paper has confined itself to addressing the educational dimension of Greek universities. Their image is currently far from clear, although this may be due to the transitional period they are undergoing. In any event, the way ahead is neither clear nor obvious nor a foregone conclusion. Yet a new identity seems to be emerging as Greek universities search for a new role.
Notes

1. In any case, the fact that the Greek ministry of Education and Universities persists in maintaining long programmes is surprising at a time when Greece faces a serious problem of dropouts or prolonged studies. At the same time, most EU countries have adopted short programmes (2 years) over the past few years (Jallade, 1991; Stamelos, 1994).

2. Obviously, the purpose of this question is not to raise obstacles to the possibility of upgrading of the status of ITEs. The problem arises when there is an attempt to impose this upgrading through legislation, without prior planning and without an evaluation procedure. This is ultimately a policy decision that affects the university both institutionally and qualitatively as well as the professional rights of its graduates, at a time of an employment crisis. It is revealing that ITE graduates are already applying pressure to obtain the same professional rights as university graduates.

3. For example: “IST Studies” (in co-operation with the University of Hertfordshire), Eletherotipia, 20/9/98; “DEI Arts, Science and Technology” (in co-operation with the University of Lancaster), Eletherotipia, 30/9/98; “Master's in Business Administration (MBA)”, Eletherotipia, 13/9/98.


5. For example: “IST Studies” (in co-operation with the University of Lincolnshire and Humberside), Kyriakatiki Eletherotipia; “Athens Campus” (in co-operation with the University of Wales and Bournemouth University; Eletherotipia, 7/9/98; “MBA”, Eletherotipia, 30/9/98.
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Cross-Functional Teams: an Innovation or Just Another Committee?

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ABSTRACT

Major changes are occurring within higher education. Driven by tightening fiscal resources, rising costs, public accountability demands, increasing competition, and changes in technology, colleges and universities are increasingly re-evaluating the ways in which they function. In the face of these challenges, colleges and universities are beginning to use successful business practices to solve organizational problems. In this article, the author examines how one of the oldest colleges in the Western United States introduced an integrated marketing program while using one of the innovations in business, namely cross-functional teams.

While it is clear that there are many similarities to implementing cross-functional teams regardless of organization, the academic culture poses unique demands as well. It is also evident that by using the knowledge from the literature of cross-functional teams, it is possible to reduce the problems generally experienced by such teams. The lessons learned from this case study are discussed, and recommendations are offered for those educational institutions which are in the initial stages of implementing cross-functional teams or evaluating why their teams are floundering.

INTRODUCTION

Major changes are occurring within higher education. Driven by tightening fiscal resources, rising costs, public accountability demands, increasing competition and changes in technology, colleges and universities are increasingly re-evaluating the ways in which they function. Many institutions of higher education, after examining successful business practices, are borrowing from the private sector and implementing new approaches to academic management. In today’s
college and university, it is quite common for academic administrators to discuss the value of total quality management, business process re-engineering, cross-functional teams and the need for integrated marketing, sound fiscal controls, and information systems.

While it is evident that these practices work effectively in business settings, it is less clear that they are productive in higher education, and furthermore, many organizational members become quite alarmed when business terminology is used. Students are not “customers”; degree programs are not “products”; the mission is not an “institutional brand”; and staff and faculty are not “associates”. The challenge for academic leaders, in today’s competitive environment, is to blend the best of business practices with the academic culture so the organizational members can embrace new ways of operating while still feeling ennobled by their work.

Madeline Green (1997), of the American Council on Education, has suggested that:

“Higher education is a paradox. On the one hand, its mission is to conserve, to embody the timeless values of scholarly inquiry and the transmission of knowledge from one generation to the next. On the other hand, higher education institutions are dynamic organizations that have the capacity to adapt to changing conditions and demands. The balancing act between conservation and adaptation is a delicate one, and produces a constant level of tension that societies, institutions and their leaders must manage” (pp. 135-136).

To better understand this tension, I will examine how one of the oldest colleges in the western United States introduced an integrated marketing program while using one of the innovations in business, namely cross-functional teams. After reviewing the literature on cross-functional teams, I will describe the process used to introduce and implement the cross-functional teams. Factors which contributed to the success and failures of the cross-functional teams will be explored. Additionally, the implications from this study will be discussed and recommendations offered for working with new initiatives within academic settings.

CROSS-FUNCTIONAL TEAMS

As teams have become more prevalent in the workplace, they have also become more varied in terms of their purpose, structure and function. While a team is “a small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they are mutually accountable” (Katzenbach and Smith, 1993, p. 45), a cross-functional team recognizes that “on many projects the relevant team includes persons outside the functional unit. The criterion is still the same – identifying those persons who are
interdependently related in the successful accomplishment of the task” (French and Bell, 1990, p. 141).

Though the natural work group has been extensively studied, the cross-functional team has not been the focus of much empirical research. Indeed, many practitioners assume that the team basics are the same for the natural work group, self-managed team, temporary project group, or long term cross-functional team and that “the commonalities are more important than the differences when striving for team performance” (Katzenbach and Smith, 1993, p. 3).

Others contend, however, that there are major differences between cross-functional and functional teams, and further state that while cross-functional teams can serve as valuable tools for addressing organizational problems, they are the most difficult type of team to lead. Parker (1994c) identified the following obstacles to cross-functional team success:

“confusion about the team’s authority, complexity of the team leader’s role, ambiguity about the team’s goals, enormity of communicating with key stakeholders, lack of rewards and recognition, troublesome interpersonal dynamics among members, lack of ‘credit’ for team participation on performance appraisal, unwieldy size of team, and lack of management support”.

In business settings, cross-functional teams are increasingly used in organizations to develop new products (Cooper, 1994; Henke, Kratchenberg and Lyons, 1993; O’Connor, 1993); re-engineer organizational processes (Bolet, 1994; Palmer and Burns, 1992; Davis, 1993); improve customer relationships (McCutcheon, Raturi and Meredith, 1994); and improve organizational performance (Heyer, 1992). Most proponents suggest that cross-functional teams offer organizations a competitive advantage especially where speed, adaptability and close customer contact are valued (Parker, 1994a).

A body of literature is beginning to emerge which points to those factors which are critical to the success of cross-functional teams. Five factors are repeatedly cited as contributing to this success:

- The membership of the team is critical, specifically having: functional representation; open-minded, highly motivated members; and representation from the end-users (Brookes, 1992; Brookes, 1993; Henke, Kratchenberg and Lyons, 1993; McClenahan, 1993; O’Brien, 1994; Parker, 1994a; Pooley, 1994; Trent and Monczka, 1994).

- A skilled team leader in a position of authority is a key factor (Brookes, 1992; Brookes, 1993; Carson, 1992; Parker, 1994b; Trent and Monczka, 1994).

- The team must have both the authority and accountability to accomplish its task (Brookes, 1992; Brookes, 1993; Henke, Kratchenberg and Lyons, 1993; Trent and Monczka, 1994).
There must be management support and adequate resources for the team (Bolet, 1994; O’Connor, 1993; Trent and Monczka, 1994); and

Adequate internal and external communication systems must exist (Henke, Kratchenberg and Lyons, 1993; O’Connor, 1993; Parker, 1994a).

In summary, the literature on cross-functional teams emphasizes the need for having management support, establishing team authority and accountability, carefully selecting the members and leader, and communicating effectively with external stakeholders.

CROSS-FUNCTIONAL TEAMS IN HIGHER EDUCATION

In the face of internal and external challenges, colleges and universities are beginning to use cross-functional teams to solve organizational problems. Though collaboration and shared governance are commonplace in higher education, the use of teams rather than committees is quite new. Two noteworthy differences exist between teams and committees, namely, teams are action – and results – oriented while committees deal in the philosophical realm, and team decisions are reached through consensus rather than voting (Messina et al., 1994). Committees are often assembled in higher education to investigate an issue or to establish policies and guidelines for a given operation while teams evolve when a group of individuals work together to accomplish their common goals.

Though cross-functional teams are relatively new in higher education, academic institutions have utilized cross-functional teams to “achieve” total quality management goals (McClennan and Ingersoll, 1997; Satterlee, 1996; Wheatley, 1995); integrate the functions of previously disparate offices (Griffith et al. 1996); develop college-wide resolution processes to deal with student concerns (Messina et al., 1994); and improve the budgeting process as well as the overall quality of students’ experiences (Inman, 1995). Messina et al. (1994) found that cross-functional teams produce better outcomes than functional teams as well as the ownership necessary to initiate change. Similarly, Inman (1995) discovered that participants in cross-functional teams developed an increased understanding of all college systems and had a greater personal investment in the changes proposed by their teams.

While there are benefits in utilizing cross-functional teams, there are challenges as well. Problems of motivation can occur when members are performing tasks which are not connected to their ongoing work or when they are not empowered to influence the university culture (McClennon and Ingersoll, 1997). Messina et al. (1994) noted that achieving organizational excellence does not occur magically; developing cross-functional teams requires hard work, self-discipline, and a significant investment of time. In an empirical study evaluating the effectiveness of cross-functional teams, McClennon and Ingersoll (1997) found that teams had problems
understanding their goal, achieving a collaborative climate, and having competent leadership. They further uncovered that rewards and external resource support were almost non-existent for team members.

The challenges of working with cross-functional teams may be fostered by the academic culture itself. According to Wheatley (1995), the historical fragmentation of educational institutions, turf protectionism at the administrative level, and faculty focus on autonomy and individualism undermines members' ability to view the institution as a whole, a prerequisite to cross-functional teams. This lack of cross-functional integration leads to insularity and intense competition for scarce resources, and in this type of environment, cross-functional teams cannot thrive.

Green (1997), though not specifically discussing cross-functional teams, points out in an essay on institutional change other factors which could inhibit the effectiveness of cross-functional teams. Given the shared governance model in academic settings, change becomes a laborious process. While the private sector has the ability to move swiftly and decisively, teams within academic settings have to consult faculty, seeking a consensus among a diversified faculty, before taking action. She further notes that many institutions have amateur leaders with limited preparation for managerial responsibility, autonomous schools and faculties, and multiple and politicized stakeholders, all contributing to unclear institutional goals and decisions.

Though the challenges of introducing cross-functional teams loom large, the benefits to students, faculty and staff are great (Messina et al., 1994). By understanding the academic culture, training and preparing personnel for the teams, providing clear expectations and rewards, and empowering leaders and members, there is a likelihood that academic cross-functional teams can be successful (McClennon and Ingersoll, 1997).

CASE STUDY: AN INSTITUTIONAL OVERVIEW

This study was conducted in one of the oldest and most distinguished colleges in the western United States. As a comprehensive college, it serves undergraduates, graduates and working adults, providing both degree and non-degree learning opportunities. The College is organized into five Schools, serving approximately four thousand full- and part-time students, in programs both on- and off-campus.

The College has a rich history and deeply-held shared traditions. The three traditions which have sustained it since its earliest years include the classical tradition of liberal arts education, the intellectual and spiritual legacy of the Catholic Church, and the vision of education espoused by the Lasallian Christian Brothers. The College's reputation for excellence, innovation and responsiveness in education
comes from its heritage as a Catholic, Lasallian Christian Brothers, and Liberal Arts institution.

PROCESS OF IMPLEMENTATION

As all institutions in higher education, the College has had to adapt to the changing environment, especially increased competition from both public and private institutions. To help the College compete in an increasingly market-driven environment, a Marketing Director was hired and her initial responsibility was to develop a strategic marketing plan. As a central component of the plan, the Marketing Director initiated integrated marketing at the College, using cross-functional teams to plan and co-ordinate the integrated marketing efforts. The function of each team, as she viewed it, would be to encourage communication and collaboration, ensure that the marketing strategies were integrated, and create efficiencies and economies of scale.

Integrated marketing, a relatively new concept in higher education, is a holistic approach to institutional marketing. Don Schultz, professor at Northwestern University, defines it as:

“A concept of marketing communications planning that recognizes the added value of a comprehensive plan that evaluates the strategic roles of a variety of communications disciplines (for example, general advertising, direct response, sales promotion, public relations), and combines these disciplines to provide clarity, consistency, and maximum communications impact” (Schultz, 1993).

The academic environment offers a challenge for implementing an integrated marketing plan since the decentralized nature of organizations often results in poorly coordinated and integrated efforts among the schools and departments.

To build support for the strategic plan, the Marketing Director consulted with the Deans and Vice Presidents to target the broad goals for the teams and to identify possible co-leaders. In addition to leading the cross-functional teams, the leaders also agreed to serve on the Steering Team for this endeavor. The Steering Team’s role was to articulate the overarching vision and goals for the Integrated Marketing Program, provide guidelines for the teams, and establish systems for communication and accountability.

The co-leaders organized the six cross-functional teams after the Steering Team established the overall program vision, methods for recruiting new members, team meeting expectations, techniques for communicating among the teams, reporting requirements and the like. Each team, within the guidelines of the overarching vision statement, developed its own vision, performance goals, objectives, and action plans to reach these goals.
Building on knowledge from the literature on cross-functional teams, considerable attention was given to communicating within the teams, among the teams, and within the College as a whole. The Steering Team served an essential communicating and coordinating function among the cross-functional teams. Steering Team members prepared memoranda and newsletters about the teams’ progress, and made presentations to the President’s Council, Academic Senate, and Regent’s Committee.

The Marketing Director played a critical role in spearheading the overall effort and in supporting the cross-functional teams. She attended a majority of team meetings and all of the Steering Team meetings, provided assistance to team leaders, and often advised teams about initiatives which other teams were undertaking. With her help, there was a minimum of duplication across the teams and in fact, she helped teams better understand how they could build on the work of other teams. As was feasible, she offered staff or budgetary support to follow up on team projects, and in effect was the coordinator for this venture.

**METHOD OF STUDY**

For this study, a review was conducted of all archival data related to the Integrated Marketing Program, group leader reports, and group member surveys to answer the following questions:

- What was the status of each team’s progress with regard to accomplishing its objectives?
- What factors contributed to the team’s success?
- What factors inhibited the team’s success?

A 29-item questionnaire (modified from a 59-item questionnaire) was constructed to identify those factors most closely associated with the successful teams (Proehl, 1996). Likert-scale items were included to see how well each team functioned with regard to clarifying goals, defining roles, communicating openly, fostering creativity, striving for quality and the like. Members were given forced-choice questions to identify how productive their teams were, to evaluate the quality of their team’s final recommendations, and to assess how well they worked as a team.

**Findings**

These findings are based on surveys returned from 70% of the cross-functional team members (37 out of 53) and reports from 100% of the co-leaders (12). The co-leaders did not complete the member survey but prepared written reports, addressing the following areas: team vision and goals; summary of team accom-
accomplishments (both tangible and intangible); hurdles the team faced; lessons learned; and future team activities.

Outcomes

Eighty-two per cent (82%) of the members rated the quality of their team’s accomplishments as either “good”, i.e. we offered many constructive recommendations or “excellent” i.e. we were able to pull together an excellent set of constructive recommendations. None of the members selected “poor” while 6% selected “below average”, i.e. we came up with a few good suggestions and 13% selected “average”, i.e. our recommendations were at a level which was acceptable. The specific types of outcomes developed by the teams included:

- Developed enhanced duplicating center procedures and work order form.
- Conducted survey to determine types of bulk mail projects done by all departments.
- Compiled analysis of campus department advertising expenditures.
- Developed “Bulk Mail Basics” for campus distribution.
- Developed and obtained support to implement a comprehensive new “Posting Policy” to increase the quality and consistency of posted items on campus.
- Developed database of community service, internships and service-learning positions.
- Created brochure and website, explaining opportunities for community service, internships, and service-learning.
- Evaluated and recommended changes for the College Viewbook.
- Staged the first in the Presidential Community Luncheon series for campus neighbors.
- Held the first Rossmoor Day as outreach to a neighboring senior community.
- Produced telephone contact sheet, recruitment program listing sheet, and inquiry card for all graduate and extended education programs.

The teams’ progress was re-evaluated at the end of the year to determine if they were worthwhile and should be continued. Eighty-five per cent (85%) of the respondents indicated that the work of the team needs to be continued in the future. Only 9% indicated that they would not be interested in continuing with the team next year. Sixty-six per cent (66%) indicated they would like to continue while the remaining 24% stated they may be interested with most providing explanations for why their answer was tentative.
Factors contributing to the success of the teams

Eighty-nine per cent (89%) of the members responded to the open-ended question: “Please explain what most enhances the effectiveness of your team”. The responses are listed below in order of frequency:

– Well organized, structured goal setting with measurable and doable objectives.
– Excellent leaders who were energetic and organized.
– Motivated and conscientious members committed to the task.
– Wide representation of College employees; having important key players on the team.
– Openness to all ideas; willingness to listen.

The team leaders additionally suggested that the factors contributing to their team’s success included member co-operation, collaboration, and negotiation. They noted the importance of being well-prepared for meetings, keeping all members informed about the team’s work, and maintaining an openness to new approaches to work.

Factors inhibiting the success of the teams

Eighty-six per cent (86%) of the respondents responded to the open-ended question: “Please explain what most inhibits your team”. The most frequently mentioned items, listed in order of priority, were:

– Too many projects and not enough time.
– Poor attendance.
– People not expressing if dissatisfied with something.
– Goals are long-term, requiring a great deal of dedication and support.

The leaders also provided insight about the challenges which their teams faced. On three of the teams, the leaders recognized that the teams’ scope was too broad, addressing two distinct areas (for example, direct mail and advertising), and as a result, the vision for the team was muddled. Several of the teams had problems securing the appropriate team members. Faculty members were particularly difficult to recruit as they had scheduling conflicts and multiple committee commitments. Some of the team members only had peripheral expertise or interest in the team’s work, and others expected the leaders or the marketing department to follow through on recommendations.

Significant contributors to team success

As previously mentioned, 82% of the participants reported their teams were productive while 18% suggested otherwise. Seventy-five (75%) of the members
indicated that their groups functioned as teams with a common purpose, strong performance goals, and a common working approach. The other 25% suggested that their groups did not function as a team. Overall, the respondents indicated that the teams did use practices which are associated with successful teams. The highest ranking practices were as follows:

– Team norms foster creativity; members are not locked into past traditions and are able to bring fresh perspectives to present problems.
– Team members have open lines of communication with each other.
– I feel valued as a member of the team.
– The goals and objectives of my team are clear.
– Team leadership is flexible, shifting in style to suit the needs of the situation and the people involved.
– The overall trust level is high, as evidenced by a healthy amount of spontaneity and risk taking in meetings.
– Team members are highly committed to producing a quality product.

Strong differences were found between those individuals who ranked their team as productive as compared to those who did not. Several factors emerged as significant contributors to team success:

– The teams which were productive were able to focus their energies on priorities and make decisions in a timely manner.
– These teams were clear about their goals and objectives, and they accomplished their goals in a timely and high quality manner.
– Members were clear about their roles, knowing who was responsible for what.
– Members collaborated with each other, participated freely, and effectively used available resources.

Interestingly, there did not appear to be major differences in team leadership style, openness of communication, willingness to disagree, and use of team procedures. All team members believed their teams established norms which fostered creativity by bringing fresh perspectives to present problems.

DISCUSSION

Similar to the literature on cross-functional teams, this study also found that the factors contributing to the success of the teams were having: clear objectives with measurable and doable outcomes; well-trained, organized and energetic leaders; motivated, conscientious and committed members; and a climate which fostered openness and creativity. In addition, the teams which were most successful were able to focus their energies on priorities and make decisions in a timely manner; members were clear about their roles, knowing who was responsible for
what; and they collaborated with each other, participated freely, and effectively used available resources.

In this study in contrast to the literature, however, it was noticeable that participants did not express concerns about the need for authority and accountability to accomplish the task; management support and adequate resources for the teams; and internal and external communication systems. Using knowledge from the literature, the teams, for the most part, identified projects where members had the authority and incentive to implement the solutions, and when the members did not have this authority, they had the decision-makers review the team recommendations prior to proposing them to decision-makers. While resources were limited for the teams, the members developed creative solutions to find the necessary resources to implement the solutions, and the marketing department additionally provided resources. Finally, the steering team and individual teams developed plans for communicating within the teams themselves and within the College as a whole. As mentioned, periodic written and oral reports were given to the Board, the President's Council, the Academic Senate, and the community at large.

While there are similarities between cross-functional teams in higher education and other environments, as discussed, there are unique challenges while beginning cross-functional teams within academia. In this project, teams were encouraged to use the business model for teams, identifying vision statements, goals, specific measurable objectives and action plans. While it is essential to establish direction for the cross-functional teams through the vision and goals, it is unlikely that the business model of identifying "bottom-line" results can be superimposed on the academic culture. Within higher education, it is difficult to achieve outcomes within a nine-month process, and furthermore most institutions do not have adequate baseline data for later comparisons. It generally led to frustration for the team members, wasted effort for the team, and possibly a sense of failure if the objectives were not accomplished.

Another challenge of implementing cross-functional teams in higher education ironically relates to its established culture of valuing collaboration and consensus. When committees are constituted in educational institutions, there is an accepted practice of inviting all constituent groups to participate (Handy, 1995). While it could be argued that this is appropriate for governing (and by definition, political) committees, it could likewise be contested that this approach is not appropriate for cross-functional teams. Within this study, each team, following the practice of the academic culture, sought members to represent staff, faculty, alumni, students, Christian Brothers, and community representatives.

While the teams initially had representation, they struggled with attendance and participation, and in fact, most teams only began to function effectively when they narrowed down to a core of committed members. In most cases, those remaining
members were the ones who had the greatest investment in the outcome of the team and therefore, the most to gain or lose. Carefully selecting a small core of committed members, rather than bending to political considerations, becomes a challenge for the leaders of cross-functional teams.

Messina et al. (1994) have suggested that the use of teams within academic settings is quite new, and there are significant differences between committees which are commonplace in academia and teams. Within this study, several teams had difficulty establishing outcomes which could be achieved during the life of the teams. They struggled with their direction and members often felt they were not accomplishing worthwhile goals. Given the academic culture which values scholarly inquiry and the transmission of knowledge, it is possible for team meetings to become for individual members to demonstrate their knowledge to other members. As such, discussion and analysis, rather than results, becomes the focus for the team, and team members, while engaged in lively discourse, do not accomplish the intended purpose of the team.

The literature on higher education further suggests that the historical fragmentation of educational institutions, co-joined with turf protectionism, could undermine members’ ability to focus on the institution as a whole (Wheatley, 1995). While pockets of this were noted in this study, team members generally embraced the concept of bringing together diverse members throughout the College to work on institutional issues. In fact, many participants emphasized that through their involvement they better understood institutional issues and now know their colleagues from across the campus.

IMPLICATIONS

In this study, it is clear that while there are many similarities to implementing cross-functional teams regardless of environment, the academic culture poses unique demands as well. It is also evident that by using the knowledge from the literature on cross-functional teams, it is possible to avoid or minimize some of the problems generally experienced by cross-functional teams. The lessons learned from this case study may benefit other educational institutions which are in the initial stages of implementing cross-functional teams or evaluating why their cross-functional teams are floundering. To that end, the following recommendations are offered:

- As with all teams, it is important to train team leaders, members and sponsors in the basics of team functioning including clarifying the vision and goals, defining the team structure, creating an open environment, utilizing consensual decision-making, and the like. Due to the unique nature of cross-functional teams, it is critical for team leaders and members to be forewarned about the unique challenges they will face with their teams and
methods provided for dealing with those challenges. It was encouraging to note in this study, however, that it is possible to avoid some of the obstacles noted in the literature, namely confusion about the team’s authority, enormity of communicating with stakeholders, and lack of management support (Parker, 1994c).

- Given the historical fragmentation which exists on most campuses, special efforts must be made to help members develop an institutional perspective. The approach of creating an overarching vision for all cross-functional teams and having each team create its own vision appears to be an effective one for dealing with narrow perspectives. Ample time, however, must be given for establishing commonalities among members before proceeding to problem-solving.

- While having an unwieldy team size is a problem for cross-functional teams in general (Parker, 1994c), it is particularly troublesome in higher education. Though it is critical to obtain the perspective of the key stakeholders, it is more important to limit the team to ten or fewer, committed members and to devise alternative methods for obtaining input from stakeholders. Larger groups are in general less productive (Katzenbach and Smith, 1993); members become, in their mind, more expendable; and the participating team members become demoralized when others choose competing priorities over the team.

- Given the academic culture, it is critical for team leaders to help members understand the differences between teams and committees. It is especially important to remind members that they are not advisory committees, but rather teams where the members work together to implement the solutions they devise. This will remain one of the challenges for team leaders within academic settings as teams are not fully understood or practiced in our colleges and universities.

- Special care and attention must be given in selecting and training team leaders. It is preferable to have leaders who are in positions of authority and who care deeply about the team’s outcome. As noted in this study, the leader needs to help the team focus its energies, make decisions in timely ways, achieve its goals, and clarify roles so members know who is responsible for what.

- Ambiguity about team goals poses challenges for all team leaders (Parker, 1994c), but it is a particular threat within higher education. In this study, several of the teams were unclear about their goals and as a result, the teams struggled with direction. In some instances, even when the goals were clearly articulated, the leaders were unable to focus the members on the goals per se. Some team meetings became lively brainstorming sessions where new goals
and projects were continually proposed. Though this creative process is appropriate at times, if it becomes the team's modus operandi, then the team will not accomplish its goals.

– As Messina et al. (1994) suggested, developing cross-functional teams requires hard work, self-discipline and a significant investment of time. Not only was the process time-consuming for the leaders and to a lesser extent, the members, there were coordinating functions required to oversee the overall program. The Marketing Director initiated the program, obtained support for the teams, recruited the team leaders, and secured the assistance of a faculty member who provided the training and overall facilitation of the Steering Team. In essence, to be successful with a campus wide initiative, a coordinator must provide these functions (and more) or the teams will drift when competing priorities confront team leaders and members.

– The Steering Team served an essential communicating and coordinating function among the cross-functional teams. In the Steering Team meetings, the leaders not only discussed how their cross-functional team meetings were going but also provided periodic updates on team progress. The Steering Team organized events where the members from the various teams met and heard about the progress of other cross-functional teams. A logo was developed and buttons for all team members were distributed to foster greater awareness of the overall program.

Given the time necessary to implement cross-functional teams and the particular challenges which academic environments pose, is the effort worth the investment? Are there other avenues which could render the same results with fewer costs? These questions, though important ones to ask, were never even considered by the Steering Team. The team leaders were unanimously supportive of this process and committed to continuing it for the following year and proposing to add additional teams. Further, 85% of the members indicated that the work of their team needs to be continued and only 9% were unwilling to participate in the upcoming work. Why is this so?

Upon reflection, the cross-functional teams offered leaders and members an alternative way of working within an academic setting. Staff members who had previously never worked on campus-wide issues were invited to participate; staff and faculty were working together on shared goals; members from different Schools were discussing common interests; new relationships and friendships were developed; and all of the teams were jointly working to improve the institution as-a-whole. The ways in which the teams functioned were different as well; they did not function as “just another committee”. For example, goals were established; ground rules developed; minutes distributed; action items identified and
accomplished, and team members believed the accomplishments of their teams were worthwhile.

While the challenges of instituting cross-functional teams are many, so are the rewards. Bringing a cross-functional perspective to organizational problems helps build understanding, problem-solving capabilities, coordination, communication, and ultimately, improved quality and service. In today’s competitive educational environment, improved quality and service are the keys to organizational success, and cross-functional teams offer a valuable tool for achieving this success.
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Responsibility Centre Budgeting and Responsibility Centre Management in Theory and Practice

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ABSTRACT

By the end of the 1980s a number of large, research intensive universities in North America had begun experimenting with an organizational and budgetary concept that later became known as Responsibility Center Budgeting or Responsibility Center Management. The principal objectives of RCB/RCM were to relocate and enhance responsibility for planning and budgeting, usually by decentralization, and in turn improve institutional performance in making decisions about the allocation and generation of resources, and in delivering services. More than a dozen major American and Canadian universities have now deployed RCB/RCM to one degree or another. This makes it possible to begin to test the hypotheses and expectations on which RCB/RCM was originally based, and to determine some of its practical implications and consequences.

INTRODUCTION

Within the last decade several major universities in the United States and Canada have adopted Responsibility Center Budgeting (RCB) and Responsibility Center Management (RCM). As early as the 1970s some universities, before an RCB/RCM taxonomy was developed and elucidated by Edward Whalen at Indiana University (Whalen, 1991), had implemented certain aspects of what is now understood to be encompassed by RCB/RCM.

The terminology and theory of RCB/RCM is still evolving. TQM – Total Quality Management – embraces some aspects of RCB/RCM. So do BPR – Business Process Re-engineering – and School-Based Budgeting, which is often linked with the charter school movement (Barlosky and Lawton, 1995). At the University of
Michigan, RCB/RCM is called Value Centered Management. At Indiana University, the term Responsibility Center Budgeting is no longer used; only Responsibility Center Management is used, as is also the case at UCLA. The comparable term at Ohio State University is Incentive Based Budgeting. At the University of Illinois, Urbana-Champaign, the phrase Mission Focussed Budgeting and Planning is used. The University of Southern California refers to Revenue Center Management.

RCB and RCM, as nomenclature, are used interchangeably. As defining theoretical concepts, however, they are different from one another. RCB is an expression of the total cost and total revenue attributable to a university academic division but does not go beyond attribution. In other words, it is management information about important aspects of institutional performance. Moreover, it is a different kind of information from that which general fund accounting normally provides. Critics of fund accounting favor the sort of clear-cut display of total revenue and total expense that RCB produces (Winston, 1992).

RCM involves more than attribution; it also involves control and, in turn, a change in management structure as well as budget structure. RCM gives a college, faculty, or department control over the income that it generates and the expenses that it incurs, including indirect and overhead costs. Control over income may include the determination of tuition fees as well as the receipt of the revenue that they generate. Control over expense includes local options for securing goods and services that otherwise would be available only through central university service units. Together, RCB and RCM have a highly decentralizing effect, by locating many decisions involving the generation and management of resources at different locations in the organizational structure of the university, locations at which there is greater familiarity and knowledge about the connections between budgets and programs.

The practical applications of the concepts of RCB and RCM do not always align with the theory. Some universities attribute all expense but only some income. Others, recognizing that opportunities to generate revenue are not equally available among academic programs, deploy RCB/RCM in some divisions but not in others. RCB/RCM affects collegiality in different ways. While, in theory, RCB/RCM should improve decision-making, it does not always.

**BASIC ELEMENTS OF RCB/RCM**

The first and most important element of RCB/RCM methodology is the calculation of all revenue generated by an academic unit. This includes, obviously, revenue from tuition fees and endowments earmarked for the unit. But, perhaps less obviously, it may also include a share of undesignated endowment and gifts, a share of undifferentiated operating grants, a share of proceeds from the sale or development of university assets, and a share of net revenue generated by university
ancillary or auxiliary operations. The revenue thus calculated represents the resource base available to the unit. The amount is recalibrated annually to reflect changes in levels of activity that generate revenue, and changes in government funding. Periodic recalibration is important for two reasons: first, it ensures the credibility of incentives and, second, it ensures the reliability of information about costs.

The next and equally important step is the assignment of centrally budgeted indirect costs and overheads to the academic unit. Cost centers are identified. They typically include:

- Institutional administration, governance, and management.
- Development and alumni relations.
- Financial management.
- Human resources management.
- Internal audit.
- Academic support services (for example, libraries and academic computing).
- Student services.
- Academic administration (for example, research administration).
- Occupancy costs.
- Debt service.
- Taxes, fees, and levies.

These cost centers are broken down and attributed to academic divisions on the basis of an allocative mechanism appropriate to the individual cost center. For example, financial management costs are assigned on the basis of gross expense budgets, student services on the basis of student population, and human resources on the basis of faculty and staff population.

The revenue base less the indirect and overhead cost allocation then constitutes the net available resource base that the academic unit can apply to its array of academic programs and support activities. However, and very significantly, because the allocation of indirect and overhead costs is transparent and systematic, academic units can make changes in their operations in order to reduce those costs.

In summary, RCB/RCM rests on a few basic operating principles:

- All costs and income generated by each college, faculty, or department are attributed to that unit, appear in its budget, and are under its control.
- Incentives are created and monopolistic barriers removed to allow each academic unit to increase income and reduce costs according to its own academic plans and priorities.
– All costs of administrative and service units are “grossed up” and attributed to academic units. No costs are left unattributed, and the attributed costs themselves include overheads and indirect costs (for example, the attributed costs of the human resource department include its occupancy costs).

– Decisions about prices (tuition fees) and volume (enrolment) are devolved to the academic units.

– Decisions about optimal balances between costs and revenue are made by the academic units. They set priorities. They link plans and budgets.

– Restrictions on line-by-line budgets are relaxed or eliminated. Each academic unit allocates the global revenue base available to it.

THEORY AND PRACTICE

The theory of RCB/RCM has been described, at least initially, quite well (Whalen, 1991; Brinkman, 1993). In some cases, like Indiana University, RCB/RCM arose from a fully developed plan that was devised before RCB/RCM was introduced. In other cases, like the University of Toronto, the development was more evolutionary as RCB/RCM was applied to only some major faculties instead of to all faculties.

This study examines the actual implementation and performance of RCB/RCM at the following institutions, some of which have fully implemented RCB/RCM while others have implemented various aspects of it: Indiana University, the University of Toronto, the University of Michigan, the University of Illinois at Urbana-Champaign, the University of Minnesota, the University of Pennsylvania, the University of California – Los Angeles, the Ohio State University, Cornell University, the University of Southern California, Clemson University, Worcester Polytechnic University, and Washington University. The basic questions of the study are: How does RCB/RCM work in practice? What are its advantages and disadvantages? How does it affect planning? What theoretical aspects of RCB/RCM need further thought and development.

ADVANTAGES OF RCB/RCM

RCB/RCM emphasizes and exposes costs that are often known but not recognized, or are deliberately not known because of their strategic implications

While RCB/RCM demands accuracy and a sound methodology for attributing indirect and overhead costs, its ultimate purpose is not to account for costs. There are other reasons for an institution’s wanting to know about its cost and income structures. The most obvious of these reasons are to account fully for the costs of research and to ensure that auxiliary or ancillary services that are supposed to be
self-funding really are. Less obvious but perhaps ultimately more important is to understand better the dynamics of marginal costs and marginal revenues. The National Commission on the Cost of Higher Education emphasized the importance of better understanding costs so that they can be better controlled (National Commission, 1998).

RCB/RCM takes two or three important steps beyond accounting for costs. First, RCB/RCM exposes all costs, even for programs and services that are unquestionably necessary and valuable, and for those very reasons are often unexamined. If one considers that the basic political economy of any university is to optimize the intersection of quality and cost for every program, recognizing the cost structures of high quality programs is just as important as recognizing those of marginal programs.

Second, RCB/RCM, by assigning responsibility for all costs to the program level, is a key means of “translating” between budgets and plans. Perhaps more than any other management device, RCB/RCM forges strong and realistic links between planning and budgeting. Thus the idiom by which RCB/RCM exposes and expresses costs is important in and of itself.

Third, because RCB/RCM has a “bottom line” that forces the reconciliation of all costs and revenue by program or service, it is not possible to mask certain costs or shortfalls in revenue. In several universities that have put RCB/RCM in place this characteristic has made a particular difference for research centers and programs that were presumed to be self-funding. In terms of budget planning, RCB/RCM has a “nowhere to hide” effect which can be as unpopular as it is revealing.

**RCB/RCM motivates entrepreneurial behavior and the generation of revenue**

In most other institutional planning and budget regimes, the generation of revenue is regarded mainly as the responsibility of the university’s administration. Admissions offices recruit students to ensure that targets for revenue from tuition fees are met. Presidents lobby governments for operating grants. Vice-presidents and development officers organize fund-raising campaigns, cultivate philanthropic foundations, and secure research support. Deans sometimes participate in these activities now and then, but the expectation remains that securing revenue is mainly the administration’s job. While various forms of performance budgeting or benchmarking may come into play in setting college, faculty, and departmental budgets (Garner, 1991), those budgets are predominantly expense budgets, and are planned and controlled as such. Revenue is collected centrally and allocated in the form of expense budgets, usually with no direct correlation to sources of revenue. To academic divisions, most services – for examples, libraries, media centers, and campus security – are free goods.
Because income as well as cost is attributed to colleges, faculties, or departments under RCB/RCM, the effect on principals, deans, or chairs is virtually immediate: the generation of revenue counts. Mistaken decisions or even wishful thinking about costs versus benefits makes real differences close to home.

The effect, however, is as subtle as it is immediate. The simple algorithm that more students means more revenue becomes complex as, for example, when marginal instructional costs or, for another example, space costs come into play.

**RCB/RCM locates decisions about the allocation of resources where there is the most knowledge to make them intelligently**

For the past several decades managers and planners have debated the merits of “top down” planning versus “bottom up” planning as if the choice between them was mutually exclusive (Kail, 1988). In many cases it indeed was. Moreover, the cases in favor of one or the other were often political, aimed in the first instance at securing acceptance of a plan or budget through various levels of participation, or at ensuring compliance through authority. These debates of course begged a question about the quality and soundness of plans in favor of the feasibility of their implementation.

“Sapience” is a term that today is used infrequently, and even then seems abstruse. But it is particularly apt in describing the effect of RCB/RCM on decision-making in universities. Some descriptions of RCB/RCM use the term “proximity” instead of sapience (Whalen, 1991). James March refers to the “limited rationality” of large organizations. (March, 1994). Instead of construing “top down” versus “bottom up” as an either/or choice, RCB/RCM treats them as the outer limits of a continuum in between which the quality of decision-making, especially about plans and budgets, may be optimally located at many different points.

In large, complex institutions – like the typical research-intensive university – the president and his or her administration usually have the authority to make specific decisions about the allocation of resources to colleges and faculties, and to various services, but may not have the requisite sapience to do so as crucial decisions about plans and budgets are divorced from the reality of scholarship and program delivery. These allocations involve more than finance. They may also involve space, library acquisitions, or computer access.

RCB/RCM, especially RCM, presumes that in terms of sapience the university is not a hierarchical pyramid. Instead, RCB/RCM presumes that the capability to make some decisions is greater lower in the organizational structure and that those are often decisions about the allocation of resources and about the trade-offs between income and expense.

Unfortunately and perhaps ironically, this advantage of RCB/RCM becomes more salient as the wealth of the institution declines. Deferred maintenance is an
especially revealing example. Physical plant administrators and auditors typically use a variety of formulas to measure the extent to which the value of capital assets have declined due to inadequate maintenance, which is due in turn to reduced budgets for building maintenance and upkeep. There are differences of opinion about the appropriate formula for measuring deferred maintenance (Rush, 1991) but virtually every one of them produces liabilities that are far beyond the capacities of normal operating or capital budgets to resolve. Setting safety and other code compliance aside, most university administrations (as well as governments) have great difficulty setting plans and budgets for reducing deferred maintenance backlogs when available funding constitutes only a small fraction of the overall amount required.

RCB/RCM, in practical effect, puts the question of priorities to the principals and deans who occupy the buildings and facilities in question, and who both presumably and reasonably know best how the conditions of the buildings affects the operation of their programs and services. This, of course, cannot reduce the costs of deferred maintenance. It does, however, better allocate whatever scarce funding is available to correct the problem.

**RCB/RCM encourages a “buy in” to planning and the acceptance of the need to plan**

It has become nearly axiomatic that the first problem in planning, particularly planning that involves reallocation of resources, is convincing academic managers and faculty that there needs to be a plan, and that once there is a plan that it should be taken seriously (Bryson, 1988; Keller, 1983; Lang, 1988).

Typical reactions to the heralds of the need to plan are that:

– There is no real problem.

– The problem is external; the administration should do a better job raising funds.

– The problem is an artifact of the way the university organizes its financial statements (Winston, 1992; Gordon and Charles, 1997).

– If there is a problem, it is that the costs of administration and other institution-wide services are too high. Therefore no reductions need to be made in academic budgets.

– Plans and budgets are not sufficiently linked to allow individual academic units to depend on them. Decisions about resources will still be made one year at a time, and therefore plans need not be taken seriously.

Because of the form and detail of university budgets under RCB/RCM, the institution’s financial condition, including the conditions of its various parts, is obvious and largely undeniable. Thus while there may be and usually is considerable
debate about the appropriate planning and budgeting solutions, there is under
RCB/RCM broad understanding of the problem and acceptance of the need to
solve it.

**RCB/RCM reduces the scale of planning and decision-making in large,
complex institutions**

RCB/RCM is to large scale institutional master planning as distributed comput-
ing is to main frame computing. RCB/RCM redistributes responsibility for planning
and budgeting. In this context “redistribute” does not simply mean “relocate” the
planning process intact. The central process is disassembled and redistributed. Some of it remains central or “top down” but other parts are moved to new and
varied points on the “top down/bottom up” continuum.

The result is a series of plans and budgets which, when taken together like an
anthology, form an institutional plan which is of value to governors and government. But each college or faculty need understand only its own plan and budget. Moreover, unlike other budget plans that are developed “bottom up,” the RCB/RCM plan
does not make any given local plan contingent on other local plans, which is often
the case in large-scale planning exercises, and which often is an obstacle to the
successful linking of plans and budgets (Schmidtlein, 1989; Griffin and Day, 1997).

For some institutional services – for example, physical plant – the institutional
plan can be silent as the demand for service is defined by colleges, faculties, or
departments as purchasers of the service. Another way of thinking about this is to
understand that most academic and administrative services under conventional
forms of budgeting and management operate in centrally controlled supply-side
institutional economies. RCB/RCM creates demand-driven buyers markets.

**RCB/RCM encourages the creation of markets as well as stimulating responses
to markets**

Educational planning often revolves around scale and capacity. Demographic
change will in time elicit educational change. Whether these changes occur rapidly
or slowly, they are essentially reactions, which RCB/RCM may accelerate. But
RCB/RCM also stimulates an interest in finding new markets even in the absence of
demographic change.

Privatization and marketization are controversial concepts in the public sector,
especially in the public educational sector, ranging from vouchers, to charter
schools, to radical revision of degree-granting legislation for higher education
(Marginson, 1997; Clark, 1998). These, of course, are concepts that operate at the
system or jurisdictional level. RCB/RCM is, in practical effect, the institutional
version of marketization.
Whatever the arguments for or against privatization and marketization – and there are many (Slaughter and Leslie, 1997) – RCB/RCM can produce very similar effects in terms of the institutional behaviors that lead to improving the fit between social need and economic demand on one hand, and educational diversity and supply on the other hand. This happens because, to the extent that improving the supply/demand fit produces additional revenue, the benefit accrues principally to the college or faculty that offers new or better programs, or expands capacity.

A word of caution about RCB/RCM’s capability to encourage market behavior: the experience of some institutions indicates that market potential is not uniformly or universally distributed among academic programs. For some programs and services the potential for marketization is so minor that it mutes the positive effects of RCB/RCM.

**RCB/RCM encourages interest in the identification and cost of “backrooms”**

Universities, colleges, and schools have a variety of administrative and operational services which under conventional approaches to planning and budgeting are assumed to be distinctive, if not to the individual institution at least to the particular educational sector. Moreover, with a few exceptions, these services are regarded by those who use them as free goods. While their costs are known in the aggregate, their costs to any given faculty or department are not known. Those costs, whether broadly known or not, do not usually include indirect costs and overhead costs. So, their costs, like those of their academic counterparts, are understated.

While these services are often scrutinized carefully under various planning and budgeting regimes – most notably Zero-based Budgeting – that scrutiny is usually in the form of comparisons or benchmarking which involve the same services at other institutions (Rush, 1994). So university libraries are compared to university libraries and university physical plant departments are compared to university physical plant departments.

RCB/RCM, when deployed to its full extent, can break the local intra-institutional monopolies that these services enjoy. Markets are created, sometimes within the institution and sometimes outside the institution. An intra-institutional market, for example, is the acquisition and cataloguing of books which one library might do for another library for a fee. But that same example could apply outside the institution if the arrangement were between, for example, a university library and a metropolitan reference library.

Other services under RCB/RCM might be purchased from the local market. For example, faculties or departments might hire local contractors to do minor building alterations instead of having these services provided by the university’s physical plant department. This effect of RCB/RCM can transform the physical plant
department, at least partially, from the role of “in house” contractor to the role of building code inspector.

The point here is not to enumerate services that might be offered differently under RCB/RCM. Instead, the point is to illustrate the effect of RCB/RCM on the way in which services are viewed. Once the costs of services are fully known and attributed, and once faculties and departments are enabled to purchase services wherever they choose, the perspective towards the services becomes much more generic.

Since the origins of these services, particularly automated services are often not visible to users, the services are said to operate in “backrooms”. An example from Ontario is an automated student financial needs assessment service which one university operates for a community college for an annual fee. The service is an adaptation of the university’s service for its own students. As far as the students at the college know, it is their own service without connection to any other institution.

These “backroom” generic arrangements could of course operate without RCB/RCM. But RCB/RCM creates a much stronger disposition towards thinking in terms of acquiring services from a wider variety of sources, and of benchmarking in terms of “best in class” whereby a university’s purchasing department might be compared to that of a manufacturer or a hospital instead of to that of another university (Rush, 1994).

PROBLEMS AND DISADVANTAGES OF RCB/RCM

**RCB/RCM may assume more knowledge of costs than an institution might actually have**

If the implementation of RCB/RCM at the several universities that have deployed it were to reveal only one thing it would be that the accurate determination and attribution of indirect costs and overhead is absolutely essential and very demanding. The problem has several dimensions.

First, there must be a standard methodology for determining overhead costs. By “standard” one should understand the methodology to apply to all programs and services. This does not mean that the overhead rates would necessarily be uniform, but it does mean that every rate should be determined in the same way.

There are two important reasons for using a standard methodology. Deans of faculties and heads of services, at least initially, will almost always question the rates as being too high. These administrators must be confident that the rates are determined consistently across the university. The other reason is that the fiduciary interest in RCB/RCM depends on there being a reconciliation of all costs and incomes across the institution. The deployment of different methodologies could make such a reconciliation impossible.
Second, the methodology must be accurate and inclusive as well as comprehensible—characteristics that often work against one another. But it is nevertheless necessary that the methodology be sufficiently understandable to be credible and to be predictable. Predictability, although apparently a mundane technicality, is essential. A fundamental hope of RCB/RCM is that once cost structures are known, income and expense attributed, and authority delegated the heads of academic programs and administrative services will seek to minimize those costs and maximize the revenue. So, for example, a dean needs to understand the overhead methodology well enough to know how the overhead rate of his or her faculty might change if it were to occupy less space, reduce its academic complement, or add students. If the methodology cannot pass these tests, RCB/RCM will be little more than an elaborate and expensive accounting exercise.

Third, the methodology must be replicable. If managers do indeed try to reduce overhead and indirect costs by various means, the RCB/RCM methodology must be sufficiently reliable and robust to allow manipulation and periodic recalculation.

The fourth dimension of the problem, depending on from where an institution starts, is the extent of effort needed to develop a reliable methodology and assemble the necessary databases to support it. That effort may be exceptionally great and may take as long as two years to complete. For a university facing an immediate and urgent financial crisis, that could be too long to wait.

Some methodologies take the form of formal protocols that encompass literally every aspect of institutional revenue and expense from all funds. Here are some examples from actual protocols at various universities that have introduced RCB/RCM:

- **Student services administration**
  Distribute costs based on weighted student headcount:
  Undergraduates = 1.0; Graduates = 0.5; Graduate-Professional = 0.25. The weightings represent our [The University of Michigan] belief that the services provided by these offices are predominantly for undergraduate students but that graduate and professional students also benefit from some subset of the full range of services.

- **Library**
  The proposed algorithm does not break down the library. Instead it distributes the total budget as a whole. The model is based on the premise that faculty and students at the University [of Pennsylvania] are the primary users of the library. Therefore 50% of the total library budget is distributed based on the number of paid faculty, and the remaining 50% based on the number of course units taught.
– **Physical plant**

The physical plant costs associated with the institutional mission [of the University of Minnesota] are allocated to the collegiate units based upon a calculation using the assigned square footage. This basis is derived from a [data] file which provides a listing of instructional activity by building, room number, collegiate unit, course and contact hours per week. This file is linked to other databases to obtain a basis consisting of the cost of the classroom space used by the unit plus the cost of the space that the unit “owns”.

– **Student information systems**

The SIS budget will be subdivided into the following three expense categories: student-related; course-related; and divisional production requests. The student-related expenses will be attributed to academic divisions [of the University of Toronto] on the basis of student headcounts. Course-related expenses will be attributed to academic divisions on the basis of the number of courses. Divisional production requests will be allocated to each academic division on a cost per production request.

When one considers the scale and diversity of university budgets, especially those of large research-intensive institutions, the importance and the complexity of RCB/RCM protocols like these become simultaneously apparent. RCB/RCM cannot work successfully without them, but they represent, in terms of time if not money, a very large up-front investment in the RCB/RCM process.

**RCB/RCM requires high level supporting financial information systems**

The capability to allow manipulation and recalculation of RCB/RCM overhead and indirect costs rates depends as much on the availability of reliable and accurate data as on the methodology. While most new financial information systems available from a number of vendors – SAP, SCT/Banner, PeopleSoft – are capable of supporting RCB/RCM, some older systems are not. The new systems are expensive. Despite the advantages of RCB/RCM, they might not be sufficient on their own to justify such large scale investments.

Although RCB/RCM inherently involves extensive delegation of authority, and that delegation is essential to the full realization of the advantages of RCB/RCM, it does not relieve the senior administration and the board of governors of their fiduciary responsibilities. Nor should it. Financial liabilities cannot be delegated. Debt is in the end the institution’s responsibility. As well, good faculty managers must be protected from incompetent ones, or, more exactly, from the financial consequences of their incompetence.

The implication of all of this is that the institution’s financial information system must have a strong and reliable audit capability to give early warnings of poor
management at the faculty level. RCB/RCM inherently increases business risk. In this sense RCB/RCM introduces a new demand on financial information systems.

**RCB/RCM may demand more local managerial skills and appetites than may actually exist**

RCB/RCM is as much a managerial system as it is a planning and budgeting system. This is why the architecture and methodology of RCB/RCM must be comprehensible and robust. The tradition of leadership in university faculties and departments depends primarily on scholarly reputation and only coincidentally on administrative skill (Keller, 1983).

Conventional budget planning and management systems are largely centralized and supported by professional financial managers. While the demands that those systems make on the heads of faculties and colleges are not frivolous, neither are they unusual, onerous, or difficult to comprehend. But RCB/RCM in practical effect invests college principals and faculty deans with the responsibilities of CEOs, which for many academic administrators is a new concept. Most of them are not prepared for such responsibilities. Many do not want to assume them. Virtually none of them was selected and appointed on the assumption that he or she would have to carry out such responsibilities (Blau, 1994).

In other cases the role of the college principal or faculty dean has not changed in order to meet the demands of managing under RCB/RCM but the support staff at the college or faculty level has. In at least three cases, senior financial staff from central administrative offices have relocated to divisional offices in order to support RCB/RCM.

The overall result is often an unfortunate mismatch between the capabilities of RCB/RCM on one hand and on the other hand the skills and dispositions of those who would use it. Several universities that have introduced RCB/RCM have learned this lesson.

The solution does not lie in reforming or modifying RCB/RCM. The problem is generational. The successful implementation of RCB/RCM may require considerable patience, enough patience to wait for a new generation of academic leadership. Successful implementation may also require additional salary expense for those leaders as they are asked to assume responsibilities and have skills that their predecessors did not.

**For publicly-funded institutions there may be an asymmetry between government funding formulas and actual institutional cost structures**

In the United States and Canada many if not most schools, colleges, and universities are funded under allocative formulas. There are different types of
formulas, each with its own strengths and weaknesses. Some formulas are used in conjunction with other allocative schemes like, for example, performance budgeting. But despite these differences, funding formulas have one thing in common: in one way or another they all make assumptions about institutional cost structures. Some also make algorithmic assumptions about certain forms of income, most notably tuition fees.

The validity of those assumptions is often debated, but valid or not they are inherent to funding formulas and can have a complicating effect on the successful deployment of RCB/RCM. Under RCB/RCM all revenue and all costs are attributed to each faculty or college. Each unit must then adjust its spending patterns to coincide with its revenue patterns. That is the basic idea of “each tub on its own bottom”.

The idea is simple enough until one considers the possibility, if not the probability, that large components of revenue may be based on assumptions about costs which are either erroneous to begin with or so generalized that they cannot be validly applied to specific programs in specific institutions. Funding formulas have a powerful homogenizing effect; they are based on averages that treat all programs within certain categories as the same. Therefore for any given program in any given institution under RCB/RCM, the attribution of income may be accurate but may also be unrealistic. It may also assume that the correlation between enrolment and cost is linear when in practical fact it may proceed according to a complex series of step functions unique to each institution. Some universities correct for this by not attributing all income to colleges and faculties. Some is held back and allocated by other means, often by the same means that preceded the introduction of RCB/RCM. Others correct for the artificial effects of funding formulas by inserting a local formula between the system formula and the RCB/RCM attribution process.

A similar asymmetry may exist within institutions as well if the institutions use internal formulas for making budget allocations (Otten and Savenije, 1990). It is not uncommon for large universities to make allocations according to a series of ratios, for example the number of academic staff to students. The ratios thus constructed are essentially averages that may be appropriate to some faculties but not to others. Thus it might be more accurate to observe that RCB/RCM does not mix well with allocative formulas at any level.

This, of course, is a problem that is in the end part of the case for RCB/RCM. If the linear nature of allocative formulas and the averages that they create are too highly aggregated to reflect local cost structures accurately, just as too highly centralized administrative structures do not have enough sapience to know those structures, a move to RCB/RCM removes all assumptions, to continue the example about staff/student ratios, and allows each faculty or department to set its own ratio.
Service teaching and RCB/RCM are not always compatible

From the earliest days of universities one of their roles has been to play a mercantile role among academic disciplines (Haskins, 1923). So today in the “multiversity”, for example, mathematics departments teach courses for physics departments which in turn teach courses for engineering programs. Curricular regulations make express provisions for elective courses. The variety of permutations and combinations among programs and courses is regarded as a strength of the modern university. Through curricular regulation universities encourage specialization and in a practical sense guarantee markets. Institutional planning and budgeting processes recognize these arrangements by allocating resources to protect high quality programs that otherwise might not be able to support themselves (Kissler, 1997; Vandament, 1989).

RCB/RCM can work against this tradition as individual programs and departments compete with other programs and departments for students, mainly because they do not want to share the revenue which the enrolments generate. But it may also be the case that cost structures – for example, age/salary profiles – may vary among programs and departments, thus causing some programs and departments to “repatriate” courses and offer them themselves. In terms of cost reduction, this consequence might be desirable. In terms of educational quality, the results might be unfortunate, as might have been the case in one university where the faculty of forestry decided to offer its own courses in “English for Foresters”.

Another of the effects of RCB/RCM on service teaching, although complicating, reveals and elucidates some of the basic logic of RCB/RCM. The question is about the proper attribution of the income and expense that service teaching generates. The conventional approach – which might be taken even if RCB/RCM were not deployed – is to assign the costs of service teaching to the faculty that provides it. That makes senses from an accounting point of view, which indeed is the point of view of RCB when viewed apart from RCM. It then follows that income ought to be as closely aligned with expense as possible. So the revenue that enrolments in service courses generates is attributed to the faculty that provides the service teaching.

But an ultimate objective of RCB *cum* RCM is to generate revenue, encourage market-like behavior, and improve the fit between educational supply and demand. Seen from this perspective, the attribution of revenue ought to be to the faculty that decides on critical balances between enrolment, programs, and resources, and then recruits and registers students, even though some of those students might take some courses in other faculties. The cost of service teaching then would appear as a charge by the faculty that provides the service teaching against the expense budget of the faculty that registers the students and is credited fully for the revenue that they generate.
RCB/RCM also creates markets internal to the institution. In the case of service teaching it is important to consider what is supply and what is demand. The faculties that recruit and register create a demand for service teaching. Provided there is sufficient academic justification, those faculties have a real choice between either offering an entire program themselves or by offering it partially through service teaching provided by other faculties. The reverse is not practicable: providers of service teaching cannot require that their courses be included in other faculties’ programs, in other words the supplier cannot have the upper hand. Instead, and also within the basic logic of the RCM side of the RCB/RCM equation, demand in the internal market creates an incentive for faculties that supply service teaching to reduce and control costs, and not simply pass any costs along to other faculties.

Summer sessions in some cases occupy a position comparable to that of service teaching under RCB/RCM. In institutions where the summer session is not a trimester in an integrated twelve-month academic calendar, the summer session is an add-on to academic programs much as service teaching is. The summer session has a separate budget and administration. The expense budget is used in practical effect to make internal purchases of instructional time from faculties and departments. Conventional budget and planning regimes attribute income and expense to the summer session instead of to the faculties and departments that provide the instruction and, frequently, the classrooms and instructional laboratories that the summer session physically occupies.

Under RCB/RCM the center of budgetary planning and management shifts to faculties and departments and away from the summer session administration. The reasoning behind the shift is logical: ultimately, once the cost of organizing and promoting the summer session is set aside, virtually all of the resources that support the session are in the faculties that provide the instruction. While the organizers of summer sessions might find this threatening, it might also improve institutional performance and decision-making as faculties and departments determine the best calendar locations for various courses and gain a better understanding of average costs versus marginal costs.

While RCB/RCM can relocate decision-making to levels most capable of making certain decisions, it does not ensure that those decisions will be made at those levels

One of the attractions of RCB/RCM is that it offers the possibility of improving the making of difficult, highly complex decisions. Regardless of the quality of those decisions, they are often very unpopular. Because those decisions are unpopular, senior managers, whether at the institutional, divisional, or departmental level, are inclined to avoid making them. Under conventional planning and budgeting
schemes, responsibilities for making certain decisions are organizationally assigned. The responsibilities are difficult to avoid.

But RCB/RCM has an inherent capacity for decision-making “cascades.” Just as a university may attribute costs and income to the faculty level, a faculty may assign them to the departmental level, and so on to centers and programs within departments. RCB/RCM by its very nature forces decisions; there could not be budgets without them. Thus decisions will ultimately be made at one organizational level or another, and the budgetary consequences of those decisions will be clear.

What might be less clear, however, is the quality or “sapience” of those decisions if the downward cascade does not stop at the level at which the greatest competence and knowledge to make them resides. In other words, the positive correlation between the expansion of RCB/RCM and the quality of decision-making is not infinite. There can be a point at which the expansion of RCB/RCM to lower organizational levels leads to a decline in the quality of decision-making.

**RCB/RCM requires new regulatory arrangements**

While the description of universities as “organized anarchies” (Cohen and March, 1974) may be an overstatement, it is true that faculties and departments enjoy considerable degrees of autonomy, especially in terms of who teaches what to whom, appointment of faculty, selection of students, and determination of curriculum. RCB/RCM can expand that autonomy, and in so doing engender greater internal competition among colleges and faculties. When that happens, RCB/RCM needs some sort of forum for local dispute resolution.

Just as states have means of curbing the potential excesses of capitalism, universities that deploy RCB/RCM look to similar public regulatory arrangements. One such arrangement is the academic counterpart of a “fair trade commission” which would regulate, for example, the repatriation of service courses and the intra-institutional competition for students. The commission would also ensure that admissions standards would not be compromised to meet unrealistic enrolment and income targets, or that programs inconsistent with institutional missions would not be introduced.

Another regulatory arrangement is similar to a “public utilities commission” which regulates prices and common services. While one first thinks of revenue generation under RCB/RCM as being aimed at enrolment, tuition fees, research grants, consulting income – all essentially external to the institution – RCB/RCM also results in a wide array of internal charges and cost attributions. Some of those charges can be virtually monopolistic, just as a hydro service, or telephone service, or cable television service might be. While RCB/RCM can identify costs with precision, and ensure their attribution, it cannot control or validate those costs. The
institutional public utilities commission can, and in turn prevent what otherwise might be described as price gouging.

An institutional public utilities commission can play another role that is also found in the broader economy. As costs are identified and attributed, some academic programs and administrative services may wish to withdraw services that they provide to other parts of the institution, as airlines often wish to do in regard to locations in underpopulated areas.

Universities that use RCB/RCM may have to introduce means of regulating the provision of basic services.

While the metaphor of public commissions is apt in describing the roles that they play in deploying RCB/RCM, the role does not necessarily require formal organizational structures. In a number of cases, this is a role played by the chief academic officer.

COSTS AND PRICES UNDER RCB/RCM

Market driven pricing requires a long-term commitment to RCB/RCM and in turn a long-term comprehension of markets and programs costs

RCB/RCM has the effect of stimulating, if not practically requiring, market behavior at levels within university organization at which such behavior often is rare. Faculties and colleges have little experience in making decisions about setting prices for their programs and services, and in ensuring that those prices bear a realistic relationship to costs.

For academic degree programs there is a natural tendency to set prices – that is, tuition fees – at whatever levels the market will bear. Although the basic idea is simple to perceive, its implementation is subtle, complex, and slow to evolve. Haste is an enemy of market driven pricing under RCB/RCM. For example, lower tuition fees might support an increase in enrolment, which in turn will produce additional revenue. But increases in enrolment might also produce additional costs. The relationship between enrolment, costs, and prices, however, is not always linear. Thus market-driven pricing might be successful in the short-term but unsuccessful in the long-term, or vice versa.

In the private sector firms often devise careful strategies for developing, introducing, and pricing new products. Those strategies – for example, Dupont’s plan for introducing its miracle fabrics – are sometimes aimed at dominating a market for a long time, in which case initial prices are not necessarily set at the highest possible levels. Instead the break-even point of income over expense might be as long as three years into the future, with the expectation that the new products will demand large market shares for as long as a decade. The alternative strategy is to recoup development costs by setting prices as high as possible as
soon as possible, which was the case in the introduction of computer technologies. The latter strategy is usually not available to universities because most degree programs, when construed as products, have very long gestation periods.

The point of these examples is not to suggest that there are strong analogies between higher education and the development of new products in the private sector. The point is that as universities introduce RCB/RCM (or other regimes that are highly market driven) they must take as much care as private firms do in determining price strategies and, especially, their time frames. A short horizon is likely to produce deceptive illusions and plant the seeds of future financial distress. RCB/RCM is not a real solution to short term budget problems, their severity notwithstanding. It is a long-term strategy aimed more at the quality of decision-making about the allocation and generation of resources than at the speed with which resources can be reallocated or generated.

**Cost driven pricing requires detailed and complete understanding of costs, and of the tolerance of markets to bear those costs. The relationships between costs and time are acute**

That prices should in some way reflect costs is common sense. It is not, however, widespread common sense in higher education. This is not without reason. First, some tuition fees are so low as a proportion of cost that they do not really function as prices in an economic sense. Second, degrees have prices in the form of tuition fees, but few colleges or universities are organized exclusively around degree programs in terms of their costs structures. Instead, faculties and departments have several roles: instruction – frequently comprising more than one degree program – research, continuing education and professional development, consulting, and other forms of public service. More significantly, despite a wide range of roles, faculties and departments are supported by single budgets and pools of resources. Attempts to institute PPBS (Planning, Programming, and Budgeting Systems) in higher education have usually met with failure (Balderston and Weatherly, 1972). A private firm's understanding of what constitutes a “cost center” can be quite different from the comparable understanding in educational institutions in the public and not-for-profit sectors.

One of RCB/RCM’s great strengths is that it demands a clear and complete appreciation of costs and the structures that drive them. But, as in the case of market driven pricing, time can make a major difference to an understanding of prices as costs. When new degree programs are introduced or existing programs significantly expanded, they do not reach their steady states for several years. The relationship between income and cost will change each year as the program progresses to its new steady state. In any given year, prices can exceed or fall short of annual costs while matching the average costs that obtain in the steady state.
Most colleges and universities operate on the principle that prices for self-funded programs must at least cover costs, whether or not markets will bear those costs. Costs thus determine the lowest allowable price. This is often regarded as a sound “tough love” practice through which management lessons learned in the private sector are applied in the public sector. But for some programs that approach may be unrealistic from the start, especially for highly specialized programs with low enrolments and for programs with anomalous costs structures (for example, faculties of dentistry that must operate their own clinics without third-party subvention). New programs hardly ever are able to cover their costs in the first two or three years of operation because start-up costs and incomplete enrolments – 25% in the first year, 50% in the second, and so on – are inherently asymmetrical.

There are ways in which these innate problems can be addressed under RCB/RCM. One is to impose a tax – although that term is not often used formally – on all programs and services in order to fund what amounts to subsidies to certain programs that for one acceptable reason or another cannot cover their full costs. Another is to retain certain income centrally and not attribute it to faculties and programs. This approach is attractive in jurisdictions in which public funding formulas or other allocative schemes do not lend themselves reliably to attribution below the institutional level, as is the case with “infrastructure” grants made by research councils.

Another approach for viewing costs in a broader timeframe and thus allowing stronger links between planning and budgeting under RCB/RCM is to make express provisions for internal debt. This approach makes particular sense for the introduction of new programs, sometimes for the closure or radical restructuring on existing programs, and for major capital investments, for example, in laboratories. In those early years in which costs exceed income or savings, the institution can make internal loans to faculties. The loans are real in the sense that the repayments include interest charges as well as principal, and the repayment schedules are built into faculty budgets as any other expense would be, whether or not the institution itself actually incurs an external debt to a lending institution. In cases in which no external debt is incurred – for example, when the institution uses quasi-endowed funds or cash floats – the internal interest rate is set as an opportunity cost.

Finally, a too rigid or too literal application of the “prices as costs” approach under RCB/RCM runs the risk of driving wedges between activities that should not be organizationally separated. While there are many legitimate debates about whether or not research and instruction should be funded separately and differently from one another, there is a consensus that they complement one another. In most universities faculties are expected to do both, and many facilities and services – libraries, for example – are expected to serve both. RCB/RCM does not require or force the compartmentalization of instruction and research but it does have momentum in that direction against which the institution at large must guard.
At what level should RCB/RCM set prices: by institution, by faculty, or by program?

In the first instance this is an important technical question because it defines the nexus between income and expense. Under RCB/RCM it is a question that must be answered one way or another; it cannot be evaded or deferred. But the question also has much to do with institutional mission, academic organization, and overall financial viability.

Most universities are in fact in several markets: the market for undergraduate degrees in engineering, for example, is not the same as the market for MBA degrees, and so on, even when offered by the same university. This, of course, explains why most (but not all) institutions have schedules of tuition fees with different fees for different programs. But there are other explanations which RCB/RCM tends to expose and emphasize, especially in publicly funded institutions.

First, tuition fees and some other institutional charges and fees have internal as well as external reference points. A comparison of public institutions with high average fees and those with low average fees shows that the ratios among fees are quite similar (University of Toronto, 1996). So, for example, the fee for an MBA program is usually about two times higher than the fee for a BA program within the same institution regardless of the absolute values of the particular fees in question. This phenomenon may be due as much to government regulation as to institutional policy but the main point in regard to RCB/RCM is that individual faculties and programs may not be able to set their tuition fees entirely independently of other faculties and programs. This suggests that revenue strategies under RCB/RCM may be based more on volume than on prices.

Second, in publicly funded systems of higher education diversity among institutions and programs is often highly sought after but difficult to realize. Institutions often create and support diversity by deliberately deploying “cash cows” and “loss leaders.” These are, of course, crass terms that few institutions would openly avow, but the practice exists de facto nevertheless. Programs of very high quality or programs of central importance to a university’s mission or reputation are subsidized by programs that may be of lower quality but are more profitable, either because of demand that allows higher fees or because of lower costs. RCB/RCM has a tendency towards discouraging diversification that is engendered in this way. This is another reason why some institutions that have deployed RCB/RCM have at the same time introduced various means of internal taxation and cross-subsidization. One must ask, however, whether or not the efficacy of this practice is infinite. In some institutions, the dampening of the connection between the revenue generated by a college or faculty and the actual resource base available to it has become
so great that incentives generated by RCB/RCM are weak, which in turn discourages local interest in RCB/RCM.

The basic cost-attribution logic of RCB/RCM which locates responsibility for the control of costs at the organizational level where those costs are best understood carries over to the determination of tuition fees. This is virtually an imperative when fees are cost-driven under RCB/RCM. When fees are market-driven, levels of aggregation can be higher but do not necessarily have to be.

RCB/RCM AND INSTITUTIONAL PLANS AND MISSION STATEMENTS

The proponents of RCB/RCM correctly point to its capacity to encourage planning, especially strategic planning, down to the grass roots levels of educational institutions. The proponents of mission statements usually categorize them as a form of strategic planning (Bryson, 1988; Schmidtlein, 1989). Some would go on to say that mission statements – both as process and device – are key elements in successful strategic planning (Kotler and Murphy, 1981). This juxtaposition suggests that the introduction of RCB/RCM as a planning and budgeting process should have an effect on mission statements. This does not necessarily mean that an institution that installs RCB/RCM will have to change its mission, but it may mean that the form of the mission statement will have to change, as might the means by which the institution determines its mission.

As ubiquitous as the term "mission statement" is in educational planning, it is not always understood with precision. There are in fact several different kinds of mission statement which have been used in higher education (Lang and Loppers-Sweetman, 1991). A brief taxonomy would include the following:

- Mission statements as the clarification of goals.
- Mission statements as smoke screens for opportunism.
- Mission as descriptions of things as they are.
- Mission statements as aspirations.
- Historical and philosophical justifications of the status quo.
- Plans for action.
- Interrogations which set an agenda for planning.
- Expressions of scale and capacity.
- Messianic presidential tablets.
- Anthologies of missions.

For some of these forms of mission statement, the institution's processes for linking plans and budgets – which is what RCB/RCM does – are not fundamentally relevant. The two can co-exist whether or not they actually interact. For other forms,
the relationship is symbiotic. And for other forms the two are incompatible to the point of dysfunction.

RCB/RCM to a large degree rules out the messianic table type of mission statement. This type of mission statement is usually closely identified with the institution's president or chief academic officer, and is expressed in personal terms. It has a philosophical bent and typically describes a plan for institutional reformation or reorganization. The messianic tablet mission statement is the epitome of “top down” planning. This type of mission statement is incompatible with RCB/RCM because its centralized, top down character does not mesh with the high degree of delegation that RCB/RCM entails. RCB/RCM inherently invests less control in central administrations.

Whether determined top down by presidents or as action plans, mission statements that require fundamental institutional redirection in short periods of time in response to external factors are also not suited well to RCB/RCM. While RCB/RCM might result in quick action by faculties and departments, it does not force or require such action. Indeed, those faculties and departments that find themselves able to balance income and expense will have relatively little incentive to consider any change at all.

Mission statements that are anthologies of missions fit RCB/RCM well because of all the types of mission statement they are the ones that are formed most by broad participation from the bottom up. The anthologies are compilations of plans of various units of the institution, and thus mirror the degree of delegation engendered by RCB/RCM. RCB/RCM brings to those plans a large measure of realism in university management about what is possible and what is not.

Although mission statements are usually associated with individual institutions, there are some mission statements that operate at the system level. RCB/RCM can have a relationship to them too. The relationship depends to some extent of the means that systems used to allocate resources to individual institutions; some of those means – for example, cost based funding formulas – are more suited to RCB/RCM than others. The relationship also can depend on the fiduciary controls that systems use. For example, line-by-line budgeting so predetermines patterns of spending that RCB/RCM would be of little value at the institutional level.

RCB/RCM advances system-wide mission statements that emphasize accessibility and those that call for the reduction of costs in order to close or prevent budget deficits. By attributing revenue to individual faculties and departments, RCB/RCM creates strong incentives to increase capacity and expand accessibility. By identifying all costs and attributing them – along with revenue – to individual faculties and departments, RCB/RCM demonstrates the urgency of the need to balance budgets and forces the balancing.
WHAT DO WE KNOW ABOUT RCB/RCM?

RCB/RCM appears to be a creature of circumstance. It has so far been an effective means of addressing a number of contemporary problems and issues that confront universities and perhaps other educational institutions as well. As funding shrinks, RCB/RCM can help improve the quality of decisions – as noxious and unfortunate as they may be – about the optimal allocations of resources and balances between income and expense. RCB/RCM provides incentives towards entrepreneurial behavior and the generation of revenue. It enables a better fit between educational supply and demand. It engenders a broad interest in planning and successfully linking plans and budgets. It provides governors and senior managers with better information about institutional performance.

Although RCB/RCM is almost exclusively an institutional concept, it should be of more than passing interest to governments and system coordinating agencies. The capability of RCB/RCM to promote better fits between educational supply and demand advances a public policy objective that systems otherwise can realize only by heavy-handed and often ineffective intervention. If boards of governors are better informed, they can relieve some of government’s concerns about accountability, and about vexing “How much is enough?” questions.

Setting concerns about accountability aside, some states and provinces might find that, in times of severe financial constraint, it makes better public policy to allow greater institutional autonomy by encouraging marketization which in turn will increase institutional efficiency and effectiveness, not only in controlling costs but also in attracting other sources of revenue (Berdahl, 1993). In such cases, to the extent that system administrations can have an influence on forms of institutional budgeting and planning, they should encourage RCB/RCM as an alternative to regulation.

We also know that RCB/RCM is not a “quick fix” solution. It takes time and effort to install. Sometimes it requires expensive investments in management infrastructure. It is a long-term commitment to a different management style, the benefits of which may not appear immediately and in fact might not appear until a new generation of academic managers emerges.

The strengths of RCB/RCM are most suited to large, complex, research-intensive universities. In his prize-winning essay on corporate power and federalism, Charles Handy acutely describes a paradox of size that afflicts large organizations that must be large and small at the same time (Handy, 1992). While Handy is speaking about private firms, the paradox applies to large universities as well. As institutions they must centrally provide direction, set and enforce standards of quality, ensure cohesion, and create economies of scale. All of which are characteristics of being large. Accountability to governments and boards of governors is also a central responsibility. At the same time they must encourage innovation and
efficiency, recognize the differences between accountability and control, and organizationally align competence with decision-making. All of which are characteristics of being small.

This does not necessarily mean that RCB/RCM cannot work in smaller institutions. It does, however, mean that for smaller institutions the return on the investment in RCB/RCM might not be large enough to justify its deployment.

While RCB/RCM is essentially an institutional concept, its successful implementation can depend on the ways in which public funding is allocated to universities. Some funding formulas can so distort the connection between revenue and cost that RCB/RCM is difficult to implement without adding an extra layer of complexity between sources of funding and their ultimate allocation.

The beneficial results of RCB/RCM are not automatic. In institutions with several levels of organizational structure, RCB/RCM could be an invitation to “pass the buck” as difficult and unpopular problems about the allocation of resources and the generation of revenue are passed from level to level without stopping at the level where they can be best made.

In *The University in Ruins*, Bill Readings takes pains to draw an acute distinction between accountability and accounting, and argues that universities are in danger from regarding accounting as accountability (Readings, 1996). RCB/RCM looks a lot like accounting with relatively little accountability for anything except the “bottom line.” It is indeed true that RCB/RCM has a strong element of accounting, in fact more accounting than would normally be found in other planning and budgeting schemes. Readings and others (Wagner, 1989) go on to say that over-zealous accounting and other applications of the principles of business management to the university undermine the fundamental cultural and moral roles of the university. RCB/RCM does run this risk, but it runs it in both directions.

First, if one assumes that large, complex institutions, like some universities, are too large to be managed well from the top, and for that reason tend towards heavy-handed accounting and accountability, and formulistic allocative schemes, RCB/RCM can be regarded as a means of relocating decision-making to those levels at which fundamental roles are understood and more likely to be protected. But, second and in the other direction of risk, RCB/RCM may ensure only that income and expense are balanced without due regard to those fundamental roles. Universities that deploy RCB/RCM guard against this by creating what we have called here “fair trade commissions” and “public utilities commissions,” and by holding back some revenue for allocation on the basis of quality and institutional priority. Nevertheless, an important question remains about the connections between RCB/RCM and governance, since a university’s governing body is as responsible for its cultural and moral role, and its scholarly values, as for its “bottom line”.

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Universities that have introduced RCB/RCM observe that it does not change the
degree of accountability to governors. The only difference is that some of the connect-
ing points between governance and accountability have been relocated from the cen-
tral administration to individual colleges and faculties. As a matter of simple fact, that
observation is correct. But governors, and even some members of academic senates,
may have the same “limited rationality” that caused central administrators to favor
RCB/RCM in the first place. Thus RCB/RCM may widen or at least do nothing to close
the intellectual or sapiential gap between governance and accountability.

In some universities that have adopted RCB/RCM there is a surprising and
sometimes ironic concern about quality. The irony is that conventional wisdom
presumes that the center of gravity for concern about quality resides in colleges
and faculties. Indeed, a strong reason for moving to RCB/RCM is the presumption
that central administrations cannot – whether they admit it or not – make sound
and fully informed decisions about the quality of individual academic programs.
But – and this is the surprise – some universities that have introduced RCB/RCM or
have otherwise become highly entrepreneurial report a lack of sufficient emphasis
on quality as colleges and faculties seek to maximize revenue (Clark, 1998). This is
not a fatal flaw. There are means of correcting for it, for example, by holding back
funds to be allocated centrally on the basis of quality, or establishing special
curriculum committees or “fair trade” commissions. Nevertheless, it is a phenome-
non that was not widely anticipated at the inception of RCB/RCM.

RCB/RCM seems to have a problematic effect on collegiality and co-operation.
On the one hand, RCB/RCM promotes collegiality by radically expanding the
degree of participation in making crucial decisions about plans and budgets which
otherwise would be made centrally at the peak of the organizational pyramid. By
exposing and attributing all costs and revenue, RCB/RCM allows a far more exten-
sive understanding within the university community of the institution’s overall
financial condition.

On the other hand, RCB/RCM in some circumstances engenders intense
internal competition among colleges and faculties which discourages collegiality
and co-operation. The threat to service teaching is an example. Inter-disciplinary
programs may suffer as well.

In the spatial terms of an organization chart, then, one might characterize
RCB/RCM as promoting vertical collegiality while discouraging horizontal colle-
giality. As vertical collegiality grows, central administrations necessarily lose some
control, particularly if they previously relied on patronage in resource allocation as
a means of exerting control. This has not been a comfortable situation for some
presidents and chief academic officers, many of whom are customarily inclined
towards control, especially in difficult financial circumstances and in jurisdictions
that emphasize the CEO role of the president or vice-chancellor.
It may also be that as RCB/RCM promotes vertical collegiality the idiom of that collegiality changes. In other planning and budgeting regimes, regardless of the volume of discussion between central administrations and faculties, the discussion often revolves around resources. As RCB/RCM shifts the center of gravity of decision-making towards colleges and faculties, the idiom of collegial discourse between, for example, deans and chief academic officers, also shifts, usually in the direction academic plans, standards, and performance measures.

Finally, one must ask whether RCB/RCM is a creation of bad financial times or of expanding institutional scale and complexity. RCB/RCM seems to be effective in improving (although not perfecting) the quality of decisions about resource allocation and generation. To the extent that those are difficult and unpopular decisions, universities are attracted to RCB/RCM because it improves decision-making and broadens participation in it. In better financial times that attraction might diminish.

Another attribute of RCB/RCM, however, is its capability to break decision-making logjams in institutions that are becoming increasingly complex and often larger, regardless of their financial circumstances. In this case the attractions of RCB/RCM are likely to remain compelling and worthy of serious consideration.

There is perhaps an emerging third reason that explains the interest in RCB/RCM. Although much has been said for and against the entrepreneurial university (Marginson, 1997; Slaughter and Leslie, 1997; Clark, 1998) the interest in various forms of marketization and privatization is serious and legitimate. While usually associated with public policy and systems of higher education, marketization, privatization, and entrepreneurial behavior – in various combinations – may help individual institutions respond successfully to what Burton Clark calls “demand overload” and the asymmetry between the rates at which knowledge is created and the resources made available to sustain it (Clark, 1998). At its inception, RCB/RCM was not closely identified with entrepreneurship, but it is now clear that, intentionally or not, RCB/RCM encourages entrepreneurial behavior and provides a workable organizational structure in which it can be harnessed and productively directed. This, too, suggests that interest in RCB/RCM will continue even if the financial condition of universities improves.

It also suggests that the intuitive and somewhat casual identification of marketization with privatization is mistaken. Simon Marginson, in his study of educational markets in Australia, has already observed that, in the interaction between governments and institutions, privatization does not necessarily create markets (Marginson, 1997). The same appears to be true at the next level down between universities and their colleges and faculties. More than a third of the universities that have adopted RCB/RCM in one form or another are private, which in turn indicates that simply being private does not in and of itself engender market behavior at the college and faculty level as RCB/RCM does.
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Disabled Students in Higher Education: Management for Inclusion

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ABSTRACT

In the article four issues related to the question of including disabled students in higher education are discussed. First, there are cultural and socio-economic determinants and the concept of disability cannot be taken for granted. It has to be understood from a cultural contextual point of view. Second, the meaning of disability varies and this variation is reflected in government policy towards the legal framework for implementing the UN’s Standard Roles. Third, it is very important to increase the number of disabled students in higher education because both the individuals themselves and the society benefit from this. Fourth, the question of including disabled students in higher education is a complex process. Organisation of support service, financial arrangements, the socio-political context and psycho-sociological processes have to be addressed. The question of concentration versus freedom of choice is a question which highlights the complexity of the issue.

INTRODUCTION

In this article I will touch upon four issues related to the question of including disabled students in higher education. The first three issues are disability and the cultural context, the different legal frameworks regarding disability in the OECD countries, and the importance of higher education for disabled persons. The fourth and main issue is the management of higher education to assure that disabled students are included.

Before turning to the first issue there is a need to briefly review the transformation of how disability is viewed. Before 1980 the approach to handicap was an individual-centred one. The problems associated with handicap were located within the individual, a property of that person. A reversal occurred in the early 1980s that
was marked by the recognition of handicap as a social problem. That is, the focus became the relation between the individual and the environment. The person-environment approach focuses on the shortcomings that exist in the environment. The first approach, as Söder (1988) among others points out, de-politicises the problem and the second approach places responsibility for including disabled people on politicians and, in the case which is at focus in this article, managers of higher education. The individual-centred approach emphasised support to the individual and the person-environment approach emphasises the need for changes in the environment. When it comes to the question of including disabled students in higher education both the individual needs and changes in the environment need to be addressed. However, this does not imply a return to the individualistic approach. It is more a question of not throwing the baby out with the bath water.

**DISABILITY AND CULTURE**

The efforts by WHO to find a unified and standard language regarding disability is dominant in both the 1980 definition and the new proposal (ICIDH-2) and I share the opinion that it is very important to find a clear definition of what is disability and what is not. One reason for this is that policy is elaborated through a set of laws, administrative procedures, medical diagnoses, welfare institutions, professional specialisations, and business interest. Let me give an example: Dyslexia. Not many years ago – in Sweden in the 60s – problems with reading and writing were not considered to be something which needed to be diagnosed and labelled as a disability. Children with these kinds of problems were integrated into ordinary classes which received extra resources. The point is that these pupils were treated as normal pupils who had a problem learning how to read and write. However, when the public resources decreased the extra resources faded away and the teachers and parents had to start to argue for the resources. This led to a need to identify and diagnose the problem (Solvang, 1998). Immediately tools for this were developed and the number of children labelled as having Dyslexia increased enormously. The Dyslexia example illustrates that the definition of an incapacity is changing over time (Stanovich, 1996). What was looked upon as a normal but odd function yesterday has today become a diagnosed disability. In Sweden by the end of the 1990s Dyslexia was by far the most common functional impairment among disabled students (see below). In many countries dyslexia is not considered an official category of functional impairments, and there are no strict criteria to define who has dyslexia. Hence there are no support services provided for these students and there are no improvements in the environment to make higher education more accessible for them. The conclusion is that there are cultural and socio-economic determinants and what I want to stress here is that the concept of disability cannot be taken for granted. It has to be understood from a cultural contextual point of view (Ingstad and Whyte, 1995).
THE LEGAL FRAMEWORK

The meaning of disability is among other things influenced by government policy. The disability policy can be measured by the extent to which relevant legislation has been enacted. However, even if the rights of persons with disabilities are protected by law, effective mechanisms have not always been adopted in order to ensure the de facto protection of those rights. In some cases the legal rights are to be seen more as declaration of intent rather than implemented rules. I have put together some information about benefits which are guaranteed by law in the OECD countries (see Appendix). Although this is a rough measurement of disability policy it tells us some to what extent the problem is addressed as a social issue and to what extent the society takes legal steps to improve the situation for disabled persons. From the table it becomes obvious that there exist differences between the OECD countries. 38% of the OECD countries cover all the areas presented in the table. The most commonly protected area is health and medical care which all countries except France have reported. In the field of education the general legislation applies to all categories of persons with disabilities.

The purpose of this short expose is to demonstrate and underline what was said in the earlier paragraphs about disability and the cultural context which makes it difficult to discuss disability in a general way. The meaning of disability varies and this variation is reflected in government policy towards the problem of disability.

IMPORTANCE OF HIGHER EDUCATION

I now turn to the third theme: the importance of higher education. When competition for public funding increases we need evidence of the benefits of investment in higher education for the disabled. We need indicators showing the value of educating disabled persons at the post secondary level from both a governmental and a personal perspective. Is it worth investing in higher education? There are not many studies focusing on this question. However, at the National Technical Institute for the Deaf at Rochester Institute of Technology they have done this kind of research (DeCaro et al., 1988; DeCaro and Thompson, 1997; Clarcq and Walter, undated; Hopkins and Walter, undated). Their results are unequivocal. The return on investment is extremely good, both for the government and for the individuals.

However, research addressing the question of individual and societal cost and benefits is rare. In Sweden there exist only a few studies of the employment situation for students who have graduated from a higher educational institution (see e.g., Haglund, 1997 and Arbetsmarknad för unga med funktionshinder, 1997). Both studies show the importance of higher education. The unemployment rate among disabled with a university degree is much lower than among those who do not have a university degree. The results are in accordance with those presented by
researchers at NTID. It is very important to communicate the result of such research to policy makers and funding agencies.

MANAGEMENT OF HIGHER EDUCATION WITH DISABLED STUDENTS

The fourth issue I would like to address in this article is management for inclusion. I will focus on four types of questions and how these can be addressed: organisational, economical, socio-political and psycho-sociological questions. First, however, I will present some basic facts about the present situation in Sweden.

BASIC FACTS

In 1998 there were about 1,300 students with different impairments studying at 32 institutions of higher education. (About 10 institutions have no disabled students.) The number of disabled students has increased very quickly over the last few years and by more than 125% over the last five years. Among these students, two thirds (883), had special needs which required economic resources from the universities. However, the distribution of these students among the universities is very skewed (Table 1). At one end we have 18 institutions with none or up to five disabled students and at the other end we have three universities with more than 100 students with functional impairments.

Table 1. Distribution of students with functional impairments among universities

<table>
<thead>
<tr>
<th>Number of students</th>
<th>0-5-6-10</th>
<th>11-50</th>
<th>51-100-101+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of institutions</td>
<td>18-3</td>
<td>13-1</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Based on information from the national co-ordinator for students with functional impairments, Majken Wahlström, Stockholm University.

On average there is 0.3% of the student population which are classified as disabled. But as can be seen in the table there is a great variation. For instance, at Orebro University the proportion of disabled students to the total number of student is three times higher than average, (about 1%) and this is the highest figure among Swedish universities.

The distribution in percentage of age among the different categories of functional impairments is shown in Table 2.
The largest group, and the fastest growing, is made up of those with reading and writing disabilities (Dyslexia) which in view of my earlier comments is not surprising.

**ORGANISATION OF SUPPORT SYSTEM**

How is the support system organised? First of all, there exists no special legislation ensuring the disabled any particular rights regarding higher education. Although when applying, disabled persons can claim medical reasons but in general they are admitted according to their own merits.

In 1993 the Swedish Academic Rectors Conference adopted a policy document which urged its universities to increase the possibilities for people with functional impairment to study at the post secondary level. To this end we have e.g., Library of Talking Books and Braille (established 1980), National Agency for Special Educational Support (a government financed institution which supports students with physical disabilities – established in 1970). Further, the post of national co-ordinator for students with disabilities was created by the government in 1993. In addition, at each university there is a counsellor for disabled students. This person provides information about the possibilities for the disabled to study at the university and also offers support to disabled students. The counsellors have created a national reference group. Ideally, in each department there is a contact person for all disabled persons studying in that department. In reality this system does not work everywhere. Table 1 shows that there are many universities with none or very few disabled students and the knowledge and experience of having disabled students in many departments is more or less non existent.

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**Table 2. Categories of students with functional impairment**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deafness</td>
<td>14</td>
</tr>
<tr>
<td>Hard of hearing</td>
<td>7</td>
</tr>
<tr>
<td>Dyslexia</td>
<td>37</td>
</tr>
<tr>
<td>Physical</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
</tr>
</tbody>
</table>

(N = 883)

Note: Figures in this section are based on information from the national co-ordinator for students with functional impairments, Majken Wahlström, Stockholm University.

Source: Authors.

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OECD 1999
The kinds of support service vary between different groups. Among the deaf students and those with severe hearing impairment we have sign language interpreters. This is an extremely important support. In reality it is a pre-condition for higher education for most of these people. In Sweden sign language is recognised as the first language for people who are deaf and universities have to provide deaf students with sign language interpreters. This is a very important protection of the rights of the hearing impaired students but there are at least two problems related to this: first it is extremely expensive and second there is the shortage of interpreters. A consequence of the shortage is that sometimes a student has to wait one or two semesters to enter a university until there are interpreters available. For hard-of-hearing students there are technical aids like portable and stationary hearing loops.

For students with visual impairments there are talking books and Braille. To some extent students with reading difficulties also use talking books. These textbooks are provided by the previously mentioned Library of Talking Books and Braille.

Severely physically disabled persons can have an attendant's service. This service is often organised in partnership with local authorities.

At some universities there are additional special support services like note-taking, remedial reading and writing tuition, special arrangements for exams, offices with special equipment like a scanner, braille display and writer and living support.

THE FINANCIAL ARRANGEMENTS

All universities must allocate 0.15% of their budget for undergraduate programmes from the government to support services. Additionally the government puts aside a national resource (until 1998 about 1.1 m. Euro and from 1999 1.6 m. Euro) to be distributed to those universities where the 0.15% was not sufficient to meet the needs of disabled students. This extra resource is handled by Stockholm University and distributed according to needs. However, this funding (the 0.15% and the extra money) does not cover the full costs. For examples in 1998 universities received only about 69% of their extra cost (i.e. those not covered by the 0.15%).

Among the direct costs for disabled students the cost for the deaf students is by far the largest. Sign language interpretation is as mentioned earlier very expensive. Deaf students in need of interpretation constitute 7% of all disabled students but their share of the cost is 10 times higher, 70%.

In relation to economics, there is a discussion in Sweden about what is called the principle of solidarity, i.e. those universities which do not consume 0.15% of their budget for undergraduate programmes due to few students with functional impairments should transfer their “surplus” resources to universities where the costs
exceed 0.15%. As it is now they can keep unused funds and use it for other ends. The question is under investigation.

THE SOCIO-POLITICAL CONTEXT

I would also point to the fact that the question of higher education for this group of students is not only a question for the Ministry of Higher Education and those working at that level of the educational system. Higher education is merely the last link in a long educational chain. The issue of including people with functional impairments has to be addressed by education policy in general. It has to be recognised from the very beginning of a child’s development. It is of crucial importance to organise the educational system so that disabled children have equal and real opportunities for a good education from the start. The logic is clear: in order to be able to provide support services in the higher education for the disabled in an efficient way there is a need of a certain number of disabled students. In order to have that the whole educational chain has to be improved and as I have indicated earlier both the individual and the society benefit from this.

THE PSYCHO-SOCIOLOGICAL PROCESSES

The forth question I want to draw attention to is that there are many important psycho-sociological processes involved in making higher education accessible for disabled people. At a very general level we have the stigmatisation process. By “stigma” I mean what Goffman (1968) mentioned as a discredited or discreditable attribute. It is viewed as a failing which leads to the person being perceived as inferior, “not quite human”, despite any of the person’s other characteristics. The whole identity of the person is thus reduced to this attribute. This is a very complex phenomenon and it works differently for different types of functional impairments. However, from my own experiences it is a myth to believe that this process does not exist in the academic world. Although we might expect that persons working (as staff, faculty or student) in such an environment should be enlightened, tolerant and open minded, we have to realise that universities do not differ from the world outside in this respect.

At a more individual level there are many other problems involved in higher education and disability. Let me just point out one of them. From my experiences, as a teacher, manager and researcher, in some cases these students are not prepared for the completely different type of educational environment which universities represent. An example of the cultural clash follows. When a student comes from a secondary upper school where he or she studied in special classes (which is often the case for deaf or hard-of-hearing students) and is facing the university system and confronted with new study methods and an unfamiliar social and academic environment, he or she often runs into great difficulties. They will have problems...
with the pace, the textbooks, the discussions, the big hall lectures, contacts with peers and faculty and staff and so forth. One way of coping with these kind of problems is to arrange vestibule courses before the academic year starts. This have been done in Sweden and the U.S. for deaf students with very good results.

CONCENTRATION VERSUS FREEDOM OF CHOICE

The United Nations has in its Standard Rules (1994) set out the goal to equalise the opportunity for persons with disabilities. From a structural point of view the goal is clear and explicit. For students with disabilities there should be no impediments related to their disabilities regarding what to study and where to study. The theme of the International Year of Disabled Persons 1981 was “full participation and equality”. However, establishing a programme to implement these objectives sometimes shows a contradiction between the goals. In some cases, as I will discuss below, implementation of the goal to equalise the opportunities runs the risk of leading to social exclusion. Admitting disabled students requires a certain infrastructure, technical support, trained counsellors, interpreters, accessibility to all facilities and so forth. It is unrealistic to assume that all universities will be able to provide every kind of support. In reality there is a need to concentrate some of these support services at some universities. It is very important to consider that this is relevant for some kinds of support services, not all. For instance, the question of accessibility of buildings ought to be a goal for all universities but sign language interpreters cannot be provided at all universities due to the facts that there are too few interpreters. I would also like to emphasis that I am not here discussing long term goals but how to act at the present time. The long term goal is clear. The Standard Roles there should be no exclusion of disabled persons due to their functional impairments regarding higher education.

However, concentration of this nature can be questioned for at least four reasons. The first is that this will limit the freedom of choice for this group of students (a reduction of opportunities) and this is contradictory to the UN Standard Rules. Secondly, there is a risk of stigmatisation if one is forced to go to a special university just because one has a certain functional impairment. The third reason has to do with allocation of public resources. If the government appoints some universities to specialise on some specific support service, other universities might not have enough resources from the government to provide for those who, despite the policy of concentration, wish to study at a specific university, perhaps for family or economic reasons. The fourth reason is that a concentration means segregation. There is a value in creating meeting places for all kinds of people. The non disabled students should meet disabled students on their campus. Having peers with functional impairments has implications for the attitude, the knowledge and the behaviour towards this group of people.
This is one side of the coin. As well as many good arguments for not concentrating recourses on a few universities there are some very good arguments for doing so. The first has to do with the quality of the support service. A concentration could result in a high quality support for all kinds of functional impairment. This will ensure that the disabled students impairment will not hinder them more. Related to the question of support service is the staff and faculty. At universities where the staff and faculty are used to having students with functional impairment the disabled students are often in a better position. Their academic integration will be facilitated in such an environment.

A second type of argument for concentration is related to social inclusion. Education is not only a question of an academic milieu and academic integration. Of at least the same importance is the social milieu. In fact some researchers suggest that it is more important to be socially integrated than academically integrated (see e.g., Tinto, 1987). If there are too few disabled students at a university they run the risk of isolation. This is especially true when it comes to deaf students. This is true because so much of the identity of a deaf person and deaf culture is based on sign language.

What we can see in Sweden for example is that, because of the two push factors for concentration (good support service and the social dimension) there exists an unplanned concentration. Students are very well aware of which universities provides good support service and which do not, and at which universities they find an inclusive social environment. The question is whether this trend should be reinforced or not. Here I have just outlined the principles of the debate. But what I want to underline is that the question of how to distribute the resources among the universities has to be addressed. and this is a highly complicated issue with strong arguments pro and con.

SOME PERSONAL REFLECTIONS

By way of ending the article I will share some of my personal experiences as teacher, researcher in the field of disability and as university manager. I will do this mainly by giving some examples of what I have found useful to consider when addressing the challenge of including disabled student in higher education:

1. There must not be too few people working towards the goal to increase the number of disabled students at your university. There have to be a great number of colleagues committed to the task. It is a pre condition that there exist a group of people devoted to the goal of including disabled students but this is not sufficient. There must be a wider support for the idea among the faculty and staff.

2. It must be an explicit goal in the university’s master plan and not only in a policy document. However, this is not the difficult part of it. Who would oppose?
Who would say “No we should not accept disabled persons at our university”? The challenges are making the policy a genuine one (not simply one of lip service) and implementing a concrete plan of action.

3. But having these documents (Master plan, policy documents and plan of action) is just the beginning. There are many problems especially financial. Depending on the system for funding higher education in various countries (that is the mix of private or public funding) the way of addressing economic issues will differ between countries. In general, however, one cannot expect that all the costs will be covered from governmental or other “external” funding. One has to build the case for redistribution of internal recourses and direct them towards support services. In this situation abstract arguments about democracy, equal rights and so on are not sufficient. One has to present concrete arguments. One such argument is – and this is extremely important – that most of the changes which are required when admitting disabled students will improve the situation for all students. It will increase the quality of the university in general.

4. Setting up an inter-university group which can act as a forum for discussions, complaints, support for counsellors and others working with disabled students is very helpful. One cannot underestimate the need for information sharing and for addressing negative attitudes or biases among staff, faculty and non disabled students.

5. To promote disabled students organising themselves is also very important. They can act as pressure groups, discussion partners, support partners for disabled fresh men, and act as Ambassadors for the university spreading information about the university and so forth.

6. Since we do not know much about disability and higher education from a gender perspective it is important to further investigate and address the matter.
References


SOLVANG, P. (1998),

“Standard Rules” (1994),

STANOVICH, K.E. (1996),

TINTO, V. (1987),
### Benefits Guaranteed by Law to Persons with Disabilities in OECD Countries (1997)

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</table>

| %             | 95                      | 76       | 76             | 76          | 90                 | 57         | 57                 | 57                                             | 71          |

N.B.: Ireland and Italy are not included in the survey.

1. Assistance towards employment.
2. Technical aids, sign-language interpretation for any purpose, state financial support for buying and adapting one's own car and state financial support for adoption of housing accommodation.

The Economic Effectiveness of Higher Education in “Nation” Regions of the United Kingdom: a Comparative Study of Scotland and Wales

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University of Economics, Cardiff Business School, United Kingdom

ABSTRACT

This article brings together the results of separate studies and examines the collective impact of higher education institutions on regional economies within an input-output framework. This methodology is then developed to estimate the net costs of higher education to the public purse, and to examine the relative efficiency of higher education in terms of output and income generation when compared to other “cash injections”, such as investment spending or exports sales. The article concludes by exploring policy implications.

INTRODUCTION

One of the purposes of Higher Education (HE) is to “serve the needs of an adaptable, sustainable, knowledge-based economy at local, regional and national levels” (NCIHE, 1997a).

The National Committee of Inquiry into Higher Education reported their findings in July 1997. The Committee, led by Sir Ron Dearing, were asked to “make recommendations on how the purposes, shape, structure, size and funding of higher education, including support for students, should develop to meet the needs of the United Kingdom over the next 20 years, recognising that higher education embraces teaching, learning, scholarship and research” (NCIHE, op. cit., p. 1). The report examined the local and regional role of higher education (HE) (Chapter 12), and recognised the economic significance of HE activity in United Kingdom regions, leading to recommendations to encourage HE/industry collaborations (NCIHE, 1997b).
As Dearing acknowledged, the primary functions of UK higher education institutions are to undertake teaching and research. These educational outputs of HE can make a crucial contribution to economic development by aiding knowledge and wealth creation, and in promoting the establishment of "learning societies". The precise nature of this contribution will vary among institutions, depending on the specific institutional mission and whether its work is intended mainly for an international, national or local clientele. However, irrespective of the particular orientation of any individual institution, all higher education institutions (HEIs) make a significant economic impact on their host regions, through the generation of income and employment in those areas. This economic impact has been the subject of many individual HEI studies (see CVCP, 1994, for a review and summary) which examine the importance of the HEI as a local "business", which buys inputs (labour, equipment, services, etc.) in order to generate outputs (teaching and research).

In contrast to previous studies which have examined individual institutional impacts, this paper brings together separate studies which have looked at the collective impact of HEIs on their regional economies. This regional approach has a number of methodological advantages which help to overcome the general criticisms of individual impact assessments (CVCP, 1994). These criticisms are largely twofold: lack of resources to construct local economic models results in failure to adequately address complexities presented by small area studies (e.g. commuting), whilst non-comparability of results, for definitional, methodological and data reasons, means that research findings may have little scope for generalisation beyond their particular local case studies.

The impact study of HE in Scotland (McNicoll, 1995), undertaken for the Committee of Scottish Higher Education Principals (COSHEP), led the way for further studies of HE in Wales (Hill et al., 1997) and for the United Kingdom as a whole (McNicoll, 1997). The latter studies were conducted in the period just before publication of the Dearing Report, which presented the results of a year long inquiry into the future of HE in the United Kingdom. The primary aim of all three impact studies was to report and assess the purely financial consequences of the HE sector in terms of cash flows, whilst the Welsh study also sought to examine the relationship between industry and higher education more generally, and to formulate recommendations for enhancing the role of HE in its local economy. The real methodological advantage of the Scottish and Welsh studies is that they are amongst the most directly comparable studies undertaken, hence allowing derived performance indicators to be analysed and compared.

The next section of this article describes some of the key financial and economic characteristics of the higher education sectors in both Scotland and Wales, whilst the third section outlines general methodological issues and the fourth section provides a summary of the regional multiplier consequences of HE,
with some consideration of why these estimated consequences differ by region. The fifth section will also examine the relative “efficiency” of HE in generating impacts throughout the economy, using a range of comparative indicators that allow some assessment of both the economic effectiveness of HE in Scotland compared to Wales, and, more importantly, the regional effectiveness of HE spending compared to other sorts of public or private sector expenditure. The sixth section explores the impact of HE on the public purse by estimating the net exchequer costs of HE, i.e. public payments to HE less funds received back into the public purse in the form of taxes generated as a direct or indirect result of HEI activity. Finally, the last section draws conclusions and policy-related inferences from the preceding analysis.

THE DIMENSIONS OF HIGHER EDUCATION IN SCOTLAND AND WALES

This section summarises some of the key dimensions of the higher education sectors in the two study regions. In both cases, the reports used detailed survey data from purpose designed questionnaires which were sent to each HEI. The Scottish survey related to the academic year 1993/94, whilst the Welsh report presented results based on 1995/96 data. To allow comparison between the two regions the Scottish results have been inflated to represent 1995/96. The distribution of spending and impact for Scotland remains as in the original study, with cash values adjusted only for price changes. The studies used the same methodological approach, both in survey design and subsequent economic modelling, and although there are minor differences in model specification (see next section), the results are largely (but not always exactly) comparable.

In both regions, the higher education sectors are significant local industries, employing over 32 000 full-time equivalent (FTE) workers in Scotland and almost 13 000 in Wales. In Scotland this accounted for some 2% of total FTE employment, whilst in Wales HE represented around 1.3% of total FTE employment in 1995. One of the more surprising features of HE employment is that typically less than 45% of HE employees are “academic” staff (teaching and research staff, Standard Occupational Classification group 2). The majority of HE employees can broadly be classified as “support staff”, and include administration, technical support, secretarial, library and portering staff. The HE sector i.e. HEIs, their students and visitors, contributed just over GBP 1 200 million of direct local spending to the Scottish economy and almost GBP 500 million to the economy of Wales in 1995/96, significant proportions of which were wage payments by the HEIs themselves.

The HE sector is significantly different to most other local industries, most obviously because the largely immeasurable contribution to learning and wealth creation are the primary “outputs” of HE, but also because the HE sector brings in students and visitors, whose spending adds to the overall financial contribution.
of HE in the region. In Scotland visitor and student spending adds an estimated GBP 204 million to the local economy compared to GBP 108 million in Wales. Scotland receives six times as much income from visitors to its HEIs, partly because of geographical reasons (i.e. if one visits a Scottish institution one usually needs to stay overnight), and partly because of the higher profile internationally of Scottish HE (especially that of “ancient” universities such as Edinburgh and St. Andrews).

METHODOLOGY

The objective of both the Scottish and Welsh studies was to quantify the financial and employment contributions of HE in the host regions. The Welsh study also sought to examine the interactions between HE and industry within the region and to make recommendations on how the role of HE in local economic development could be enhanced.

To measure the economic impact of HE both studies used same methodological approach, which essentially involved two phases:

- Estimation of the nature and geographical distribution of spending by HEIs, students and visitors.
- Incorporation of this information into a regional economic modelling framework to estimate the knock-on or “multiplier” consequences of HE activity.

A summary of the direct contributions of HE is provided in Table 1. As already noted a detailed questionnaire survey of all HEIs was undertaken, supplemented where necessary by published data, annual reports and accounts, etc. Annual data is provided about HEI incomes and expenditures by category by the Higher Education Statistics Agency (HESA), however no data is published on the source of those purchases, i.e. are they buying equipment, etc., from Scotland or Wales, from the rest of the United Kingdom or from overseas. This type of information is crucial, as it is the nature and distribution of local spending (by institutions, visitors or students), in the determination of local economic impact.

Table 1 shows local spending by Scottish HEIs at GBP 1 000 million. The questionnaire data showed how this spending was split amongst local sectors. Large parts of this local spending are accounted for by wage payments, but the rest was spent on equipment, books, travel, catering, banking, advertising, publishing, etc. The direct impact on other Scottish sectors (including households) could then be estimated. However, employees of HEIs spend wages locally, creating further local incomes, etc., whilst local suppliers to the HEI will need to employ labour and to make purchases to produce output for the HEI, the suppliers to suppliers need to create output and make purchases, etc. This money gets re-cycled through the economy, generating income and employment along the way, with each subsequent round of impact getting smaller (as money leaks out of the region through
The knock-on or multiplier consequences of HEI spending (or student and visitor) can then be estimated using a regional Input-Output model (see later).

Table 1. Higher Education in Wales and Scotland 1995/96

<table>
<thead>
<tr>
<th></th>
<th>Scotland</th>
<th>Wales¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>154 000²</td>
<td>89 000²</td>
</tr>
<tr>
<td>Employment (FTE)-academic/non-academic/Student Unions, etc.</td>
<td>32 300³</td>
<td>12 700</td>
</tr>
</tbody>
</table>

| Total HEI²               | 1 266⁵   | 535    |
| Local goods and services | 1 000⁴   | 378    |
| (of which income from employment) | 700⁴ | 281    |
| Local by students        | 186⁶     | 105    |
| Local by visitors        | 18⁶      | 3      |
| Total HE related local spend | 1 205 | 487    |

Note: m = million.
1. Figures exclude the University of Wales Registry and Coleg Normal.
3. The original employment figure (30 518 in 1993/94) has been inflated in line with HEI spending (see Note 5). However this is likely to underestimate Scottish employment: for example HESA figures for academic staff show a 10% increase between 1994/95 and 1995/96.
4. Operating costs plus capital spending.
5. Inflated using University Pay and Prices Index (UPPI), compiled by the Committee of Vice Chancellors and Principals (CVCP).
6. Inflated using the Retail Price Index (RPI).
Source: Survey.

imports, taxes, etc.). The knock-on or multiplier consequences of HEI spending (or student and visitor) can then be estimated using a regional Input-Output model (see later).

Student and visitor spending were, in both studies, estimated using pre-existing survey or published data on levels and distribution of spend. The Scottish study utilised information from a previous study on visitors to Strathclyde (McNicoll, 1993), whilst the Welsh report estimated visitor spending using published Wales Tourist Board data for “business travellers in Wales”. Only the “off campus” spending of visitors is included to avoid double counting, as on-campus spending (e.g. on accommodation in halls of residence) is included in the institutional accounts. Student spending patterns were estimated using published national level data (RSL 1994, Callender and Kempson, 1996), however only spending from “relevant” income was included. For Welsh or Scottish domiciled students, relevant income was defined as “the income which accrues from outside sources to the student household specifically to allow the student to undertake an education programme at an HEI” (McNicoll, 1995, p. 8). Hence parental contributions and vacation earnings are excluded from relevant income, whilst the main items included are maintenance grants, student loans and any scholarships/bursaries. However, for students from the rest of the United Kingdom or from overseas, all
higher education management

income is “relevant” and expenditures made from those incomes are treated as a net injection into the study region. As with visitor spending, only “off-campus” student expenditure is included in this category to avoid double counting.

Once the relevant student and visitor “off-campus” spending patterns had been estimated, the local (Scottish or Welsh) components of these spending were then calculated using average import propensities for different commodity groups provided by the regional Input-Output tables. For example, whilst a proportion of student spending will be on books, some of these books will have been imported into the regions (from the rest of the United Kingdom or from overseas) by bookshops. These import propensities allow each category of spending to be adjusted, allowing the local content of spending to be estimated, which is then treated as a net “injection” into the economy.

Input-Output tables detail the financial flows between different parts of an economy during any year. The flows between local industries, consumers, government and outside organisations (i.e. imports and exports) are all recorded within an Input-Output “Transactions” Table. Any industry or organisation depends to some extent on other industries, either as a source of inputs or as a market for outputs. It is these interdependencies which then determine the impacts, direct or indirect, of any one sector on other parts of the economy. Mathematical manipulation of the tables allows the further knock-on or multiplier consequences to be estimated by tracing the supply chains through the economy to assess the implications for other sectors of particular industry or policy changes. Construction of Input-Output tables is a resource intensive exercise, and has hence precluded the use of Input-Output methodologies for most previous HE related impact studies. Fortunately, Input-Output tables for Wales and Scotland already existed and were available to the authors for use in the separate regional studies (Hill and Roberts, 1996, Scottish Office, 1994). This methodological approach therefore overcomes the primary disadvantages of many previous HE impact studies (as cited in CVCP, 1994, see first section above), and presents detailed and comparable results for the study regions, whilst the Input-Output methodology also allows estimation of other less usual “performance indicators” for the HE sector.

The information provided by questionnaires, and the subsequent Input-Output analysis allows the relative effectiveness of the sector to be assessed, by for example comparing the output or employment generated by HE to that of other parts of the economy (see below, under “The economic effectiveness of higher education”). The net costs of HE in the regions can also be assessed, by estimating the tax returned to the exchequer by HE activity, i.e. employees paying income tax, expenditure taxes, institutions paying non-recoverable VAT, employers NICs, etc. (see under “Higher education and the public purse”).
THE MULTIPLIER IMPACT OF HIGHER EDUCATION

The direct cash and employment contributions of HEIs in Wales and Scotland have already been discussed. This section outlines the multiplier consequences of this HE activity, illustrating the significance of the knock-on impacts for the host regions.

The primary determinants of economic impact are the levels and distribution of local spending by the institutions, their visitors or students. Table 1 summarised the levels of local HE related spending in the two regions. The information provided by the survey returns allowed these totals to be disaggregated into separate Input-Output groups. This information was then incorporated into the Input-Output framework to allow the full sectoral impacts of HE to be estimated. A summary of this analysis is shown in Table 2. In Wales, for example, the HEIs themselves generate GBP 300 million worth of indirect effects whilst students accounted for a further GBP 163 million and visitors for another GBP 5 million. The indirect impacts generated by HEIs are concentrated in the public, business services, retail/wholesale/hotels/catering and construction sectors, whilst the largest sectoral impact of student and visitor spending is in the retail and catering sector.

Table 2. The multiplier impact of HE in Scotland and Wales

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<th></th>
<th>Wales</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>GBP (million)</td>
<td>FTE</td>
<td>GBP (million)</td>
<td>FTE</td>
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<td><strong>HEIs</strong></td>
<td></td>
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<tr>
<td>Direct spending</td>
<td>1 266</td>
<td>32 277</td>
<td>535</td>
<td>12 707</td>
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<td>of which: Local spending</td>
<td>1 000</td>
<td>32 277</td>
<td>378</td>
<td>12 485</td>
</tr>
<tr>
<td><strong>Indirect effects</strong></td>
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<td>HEIs</td>
<td>995¹</td>
<td>27 903²</td>
<td>300</td>
<td>6 596</td>
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<tr>
<td>Students</td>
<td>322¹</td>
<td>10 942²</td>
<td>163</td>
<td>3 740</td>
</tr>
<tr>
<td>Visitors</td>
<td>321¹</td>
<td>1 049²</td>
<td>5</td>
<td>119</td>
</tr>
<tr>
<td>Total indirect</td>
<td>1 349¹</td>
<td>39 894²</td>
<td>468</td>
<td>10 455</td>
</tr>
<tr>
<td><strong>Direct + indirect</strong></td>
<td>2 615</td>
<td>72 171</td>
<td>1 003</td>
<td>23 162</td>
</tr>
<tr>
<td>HE sector multiplier</td>
<td>2.07</td>
<td>2.24</td>
<td>1.88</td>
<td>1.82</td>
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<tr>
<td>HEI multiplier</td>
<td>1.79</td>
<td>1.86</td>
<td>1.56</td>
<td>1.52</td>
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</table>

1. Indirect effects have been inflated to 1995/96 values using the RPI.
2. Employment figures have been adjusted in line with output changes i.e. keeping the same employment to output ratios.

Source: Authors.

The indirect impacts of the HEIs in Wales support over local 6 500 jobs, whilst student and visitor impacts support around a further 3 900 jobs. The multipliers for
HE as a whole (HEI, students and visitors) can be defined as the total impact divided by the direct HEI contribution. In Scotland, the total HE multipliers for output and employment exceed 2, i.e. for every GBP million of direct HEI spend a further GBP million is estimated as being added to Scottish output, whilst every direct HEI job generated another, as a consequence of HEI, student and visitor spending. As expected, the Welsh HE multiplier is lower than that of Scotland. The smaller regional economy results in higher “leakages” out of Wales through import spending by industry and consumers in Wales. A more usual interpretation would be to look at the HEI multiplier, or the direct and indirect consequences of HEI spending (or employment) divided by direct HEI spending (or employment). Discounting the impact of student and visitors reduces the multipliers to around 1.8 in Scotland and 1.5 in Wales, again reflecting differences in regional size and industry structure.

Table 2 presents further evidence of the importance of HE to a region. Not only is HE a significant local player in its own right, but the sector, through its interactions with other parts of the local economy and through the “attraction” of students and visitors, creates or supports over 23 000 jobs in Wales, and over GBP 1 000 million worth of “output”, whilst the Scottish HE sector supports over 72 000 jobs and over GBP 2 600 million of “output”.

THE ECONOMIC “EFFECTIVENESS” OF HIGHER EDUCATION IN SCOTLAND AND WALES

The previous section has demonstrated the ability of the higher education sector to make a significant economic contribution to its host region in terms of output and employment generation. This section will analyse this impact generation ability in relation to other regional “cash injections”, to enable the relative economic “effectiveness” of the HE sector to be assessed.

Table 3 presents “final market” multipliers for Wales and Scotland, alongside the specific HEI impact. These final market multipliers estimate the ultimate output, incomes and jobs impacts of an average GBP million worth of total expenditure on the local economies. In Table 3, the comparator sectors are average government current spending (which includes public administration, defence and health as well as education), investment spending, and exports from the rest of the United Kingdom and overseas. All of these final markets bring money, incomes and jobs directly to the region, but also, through local purchasing interactions, generate knock-on effects in a similar way to HE. To make these comparisons of “effectiveness” the HEI impact (i.e. excluding the consequences of student and visitor spending) is used, as this is more readily compared with the other final markets.

In Scotland, HEI generates higher levels of output, income and employment per GBP million of average expenditure than the other final markets. This is a
The Economic Effectiveness of Higher Education in “Nation” Regions of the United Kingdom

consequence of the higher local content of HEI direct and indirect spending (recall from Table 1 that GBP 1 000 million of the GBP 1.300 million total spending was on Scottish goods and services, significant amounts of which were direct wage payments). Every GBP million of average total expenditure by Scottish HEIs generated GBP 1.79 million worth of output, GBP 0.86 million of income and 45 jobs. This compares with GBP 1.56 million worth of output generated by Welsh HEIs, GBP 0.71 million of income and 36 jobs. As before, the impact of HEI spend (or of other final markets) is expected to be lower in Wales due to regional size differences, and the different industry structures in Wales, whilst HEI in Wales compares favourably to other final markets, again as a consequence of a relatively high domestic input content.

Export markets support relatively high outputs in both Scotland and Wales, whilst average government spending (which includes an allocation to HE) supports over GBP 0.74 million of income per GBP million of total spending, and 38 jobs in Scotland. In Wales, the effectiveness of average government spending is higher than Welsh HEI, or Scottish government spending. This result is largely a consequence of differences in model specification between Wales and Scotland. Whilst the Input-Output models are broadly comparable, there are some differences in definition. In this case the Welsh model treats the public sector like any other industry within the economy i.e. there is a large endogenous component of GGFC, whilst the Scottish tables used in this report have a largely exogenous government sector. In both regions the investment sector has the lowest impact on the local economy, due in both cases to relatively high import penetration.

Table 3. Final market multipliers\(^1\) 1995/96
Per average GBP million of total expenditure

<table>
<thead>
<tr>
<th></th>
<th>HEI</th>
<th>GGFC</th>
<th>GDFCF</th>
<th>Exports RUK</th>
<th>Exports ROW</th>
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</thead>
<tbody>
<tr>
<td>Scotland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output (GBP million)</td>
<td>1.79</td>
<td>1.17</td>
<td>0.76</td>
<td>1.73</td>
<td>1.59</td>
</tr>
<tr>
<td>Household income (GBP million)</td>
<td>0.86</td>
<td>0.74</td>
<td>0.27</td>
<td>0.54</td>
<td>0.42</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>44.90</td>
<td>38.10</td>
<td>23.10</td>
<td>33.60</td>
<td>25.70</td>
</tr>
<tr>
<td>Wales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output (GBP million)</td>
<td>1.56</td>
<td>1.83</td>
<td>0.52</td>
<td>1.43</td>
<td>1.42</td>
</tr>
<tr>
<td>Household income (GBP million)</td>
<td>0.71</td>
<td>0.85</td>
<td>0.16</td>
<td>0.36</td>
<td>0.33</td>
</tr>
<tr>
<td>Employment (FTE)</td>
<td>36.10</td>
<td>39.60</td>
<td>10.90</td>
<td>21.30</td>
<td>19.60</td>
</tr>
</tbody>
</table>

1. Final market multipliers describe the estimated impact of “cash injections” into the economy. These could be a general increase in government spending (General Government Final Consumption), an increase in investment spending (Gross Domestic Fixed Capital Formation), or an increase in exports to the rest of the United Kingdom (RUK) or to the rest of the World (ROW).

Source: Authors.
HIGHER EDUCATION AND THE PUBLIC PURSE

Higher Education makes a significant economic contribution to the regional economy. Whilst this is an “externality” of its core purpose, these financial benefits must be set in the context of public expenditures made to the HE sector. The “effectiveness” of HE in generating impacts was shown to compare favourably to average government spending in Wales and Scotland (although there are some difficulties with such comparisons due to modelling differences between Input-Output tables for the two regions). This section will provide estimates of exchequer revenues resulting from HEI activity. Whilst the public (and private) sectors of the regional economies provide income to HEIs, part of this money is returned to the public sector via taxes and other payments made by HEIs, their employees, students and visitors either directly or indirectly.

Four main categories of tax revenue can be identified, and are shown in Table 4. In both regions revenue estimates were made using a combination of sources, including questionnaire data, regional and UK Input-Output tables (which provide information on net tax payments by industries and consumers), Inland Revenue Statistics and the Family Expenditure Survey.

<table>
<thead>
<tr>
<th>Tax revenue from</th>
<th>Scotland</th>
<th>Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GBP (million)</td>
<td>GBP (million)</td>
</tr>
<tr>
<td>HE institutions</td>
<td>65.60</td>
<td>23.72</td>
</tr>
<tr>
<td>HE staff</td>
<td>304.47</td>
<td>115.44</td>
</tr>
<tr>
<td>Visitors and overseas students</td>
<td>26.20</td>
<td>1.80</td>
</tr>
<tr>
<td>Multiplier public sector revenue</td>
<td>314.10</td>
<td>113.36</td>
</tr>
<tr>
<td>Sub-total</td>
<td>710.37</td>
<td>254.32</td>
</tr>
</tbody>
</table>

Gross cost of HE (total UK public sector funding – including research/services contracts but excluding student loans and maintenance grants) 838.00 340.00
Net “exchequer cost” 128.00 86.00

1. Excluding domestic students from both revenue and cost calculations.
2. Figures inflated to 1995/96 prices using UPPI.
Source: Authors.

Higher education institutions themselves are responsible for generating public sector receipts, the largest component of which (over 70%) are employers National Insurance Contributions (NICs). Other HEI Exchequer revenue sources include non-recoverable VAT on purchases and rates. HE staff however make
significantly higher payments into the public purse, the largest category of which is net income tax, but these payment also include employees NIC, and net expenditure taxes on employees consumption.

Higher education students and visitors also add to public purse receipts. For example, students and visitors pay indirect taxes as a result of their consumption activities. For this analysis only overseas student tax payments have been counted, because of the difficulties of estimating public sector income paid to domestic students, which would include grant payments by local authorities and other benefit payments through the welfare state.

The multiplier impact of HE activity in the region has been summarised above. This multiplier impact was spread over most sectors of the Scottish and Welsh economies, supporting output, income and employment changes. The tax revenue generated by these impacts (i.e. firms increase their output, make purchases and pay taxes, whilst employees of supplier firms, and others, pay income tax, National Insurance, expenditure taxes, etc.) are also estimated in Table 4. The multiplier impact of HE in Wales and Scotland generates a similar level of public sector receipts to those from HE staff payments, and bring the total tax revenue from HE activity to over GBP 700 million in Scotland and over GBP 250 million in Wales.

The final line of Table 4 shows the net exchequer cost of HE after subtracting tax revenues from the gross public cost of HE. In Scotland, the public sector paid over GBP 800 million to HE, whilst in Wales the public costs amounted to almost GBP 340 million. Included in these sums are payments by public bodies to HE for research contracts or for services rendered, many of which are won on a competitive basis against other public and private organisations. For information, “core” public sector funding of HE (comprising Funding Council grants and Local Authority tuition fees for UK and European Union Students) amounted to around GBP 700 million in Scotland and just over GBP 290 million in Wales.

Table 5 provides some further calculations showing “value for money” indicators (in the first three rows of Table 5) and leverage ratios (final two rows) for HE in Wales and Scotland. This table shows very little difference in the “performance” of HE in the two regions. Gross public funding cost is approximately GBP 27 500 per direct FTE employee in HE. However, using the results of Table 4 above, this public cost is reduced by some GBP 7 500 per employee in both Wales and Scotland when direct tax payments by HEIs and HE staff are taken into consideration.

Net public funding per direct FTE student is slightly higher in Scotland than in Wales. However when exchequer revenues are deducted from total public costs, HE in Wales costs just less than GBP 5 000 per FTE student, whilst in Scotland the cost is just above GBP 5 000.

The final two calculations in Table 5 present some leverage ratios for HE. These ratios show the capacity of HE to generate income through private or “competitive”...
public sources i.e. they demonstrate the reliance of HE on either “core” funding or on the public sector more generally. In both Wales and Scotland the figures show HE generating approximately 40% of its income from all competitive sources. Income from private sources specifically accounted for 28% of total in Scotland and 33% of total in Wales.

The preceding analysis (particularly of Table 4) suggests the possibility of giving increased consideration to the value to the Exchequer specifically of investment in higher education. There is of course a substantial extant body of literature relating to the rates of return to the individual graduate (the “private rate of return”) and to society as a whole (the “social rate of return”). In this context an “Exchequer rate of return” would be equivalent to a “private rate of return” from the Exchequer perspective, reflecting the fact that the Government “invests” in HE services in one time period in the expectation of realising increased net revenues in subsequent years.¹

### CONCLUSIONS

This article has examined and compared aspects of the impact of the HE sector on the economies of Scotland and Wales within an Input-Output framework. The second section considered the relative dimensions of the HE sector within both regions in terms of size, student numbers, employment and spending patterns, and its place within the economic base of its host region. The third section outlined the methodological approaches adopted for analysis of both regions and the fourth section compared and discussed the multiplier or “knock-on” impact generated by the respective HE sectors in their regional economies with some consideration of the reasons behind differences revealed. The fifth section explored the “economic impact effectiveness” of higher education on Wales and Scotland through comparison with other components of final demand and the sixth section examined the relationship between HE and the Public purse through the calculation of the gross and net cost of HE to the Exchequer. The sixth section also derives a number of

<table>
<thead>
<tr>
<th>Table 5. Higher education “value for money” and leverage ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross total public funding cost per direct FTE employee (GBP 1 000)</td>
</tr>
<tr>
<td>Net total public funding cost per direct FTE employee (GBP 1 000)</td>
</tr>
<tr>
<td>Net total public funding cost per direct FTE student (GBP 1 000)</td>
</tr>
<tr>
<td>Total HEI income/core public funding</td>
</tr>
<tr>
<td>Total HEI income/total public funding</td>
</tr>
<tr>
<td>Source: Authors.</td>
</tr>
</tbody>
</table>

¹ OECD 1999
"performance indicators" for HE to reveal "value for money" and leverage ratios in each region as well as suggesting a case for calculating the "exchequer rate of return" on investment in higher education.

In terms of key economic characteristics, notably spending patterns and expenditure per head, the article demonstrates the extent of the similarities between Scottish and Welsh HE sectors, with the differences in outcome impacts being more attributable to differences in the rest of the regional economy than in HE itself.

Comparison of HE multipliers with other components of final demand reveals HE to be relatively efficient in generating economic activity. In large part, this is attributable to HE’s relatively high propensity to spend on local goods and services, including labour services.

Examination of the relationship between HE and the "public purse" indicates that, in terms of the analysis undertaken, the net exchequer costs are considerably less than the gross cost. While, of course, this is an aspect of the conventional circular flow of income, the implication of the present work is that neither public sector nor other expenditure on HE goes into a "black hole" but rather generates economic activity forming part of the region's economic base. Equally interesting, this type of analysis lends itself to the introduction of the concept of an "exchequer rate of return" with a view to informing future policy debate on funding.

The derivation of "value for money" indicators and leverage ratios for expenditure on higher education also have potential to inform policy formulation. Increasing attention is being paid within UK higher education to the development of a range of performance benchmarking measures but so far these have focused on intrasectoral benchmarking. This analysis allows and encourages HE to be compared on an intersectoral basis, which may ultimately be of more relevance to national and regional policy on public expenditure.

As has been made clear in the Introduction, this analysis of "economic effectiveness" relates primarily to the generation of economic activity through use of the inputs in the HE production process, but does not take account of the educational outputs of the HE sector. It is therefore a comparison of HE’s "regional economic impact effectiveness" rather than "regional economic development effectiveness".

There are a wide range of issues relating to the role of HE in regional economic development (for a summary discussion, see CVCP1994, op. cit.). While only a few UK higher education institutions were originally founded with geographical or regional considerations in mind, there is growing recognition by economic development agencies and others of the "spin-off benefits" to regions of having HEIs located within their areas. In Scotland and Wales specifically, this has led to a drive to seek ways to promote greater engagement between HE and the surrounding region.
Welsh study discussed in this article sought to address some of these issues, including examining the interaction between industry and HE in Wales and how this could be enhanced, as well as identifying some of the constraints and barriers which limit the role that HE currently plays. This includes the recognition that national research funding policy (as defined through the UK Research Assessment Exercise and the Research Councils) has tended to act as a disincentive rather than a catalyst for applied regional research (Hill et al., 1997, op. cit.).

The role of HE in regional development processes was highlighted in the Dearing Report, which also noted that few incentives existed for HE’s engagement with the regional economy, and made recommendations to change this. Dearing recognised that the diverse nature of the UK higher education sector means that different institutions, depending on their spatial market orientation, could play different roles within the regional economy. However, irrespective of an HEI’s individual mission, increased recognition of the benefits to a region of hosting an HEI will lead regions to pro-actively seek to maximise these benefits. In some cases this may lead to increased demands on HEIs for quality work of “local relevance” and to meeting the skill needs of the local economy, in others the region may seek to capitalise on the international reputation and connections of its HEIs.2 Whatever local benefits are sought, their realisation will require HEI commitment to a full partnership role in regional strategy planning and development.
Notes

1. As with private and social rates of return, the relevant period for calculation of the Exchequer rate of return is extensive. For example, increased revenues to the Government will be received over the graduates working lifetime.

2. Of course, the “spatial dimension” of HE’s engagement is only one aspect of the debate on the sector’s evolving role in the UK. For a good discussion of other major issues, see Dolton et al., 1997.
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The Journal is primarily devoted to the needs of those involved with the administration and study of institutional management in higher education. Articles should be concerned, therefore, with issues bearing on the practical working and policy direction of higher education. Contributions should, however, go beyond mere description of what is, or prescription of what ought to be, although both descriptive and prescriptive accounts are acceptable if they offer generalisations of use in contexts beyond those being described. Whilst articles devoted to the development of theory for its own sake will normally find a place in other and more academically based journals, theoretical treatments of direct use to practitioners will be considered.

Other criteria include clarity of expression and thought. Titles of articles should be as brief as possible.

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