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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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ABSTRACT

The Australian Unified National System of higher education, created in 1989, brought to an end the binary structure of Australian higher education divided between universities and colleges of advanced education. Government funded rapid growth through the early nineties via load-based grant and HECS. Federal policy changed sharply in 1996. In a difficult new environment, new policies and management practices emerged. These are of interest on a comparative basis, especially compared with the UK in the same period.

The federated University of Western Sydney (UWS) is a "1989 university". It grew rapidly through the nineties to serve the fast-growing Western Sydney region. The largest element, UWS Nepean, sought to leave the federation in 1995. This precipitated a crisis leading to constitutional change. Significant organisation change was also required, both by this and by changed federal policy. Nepean restructured radically, removing the faculties and their deans and seeking to create a culture of client service and continuous innovation. The ongoing process illustrates the intricate and unavoidably interactive relationship between structure, process and boundaries, since UWS Nepean is highly interdependent with its rapidly changing region, and the centrality of culture.

THE CHANGING AUSTRALIAN HIGHER EDUCATION ENVIRONMENT

In 1989 Australian federal Minister for Education John Dawkins brought to an end the binary divide between universities and colleges of advanced education (CAEs) – a proximate analogy to Britain's polytechnics – and inaugurated the Unified National System (UNS). CAEs became universities, or parts of universities, often through merger with existing universities or one with another. Various models emerged of multi-campus institutions, adding greatly to the existing diversity as

well as to the number of Australian universities, of which there are now 36 state and two private.

The institution which provides a case study in this paper is UWS Nepean, formerly the Nepean CAE, now part of Australia's only federated (as distinct from multi-campus) university, the University of Western Sydney (UWS). The other partners in the UWS federation are Macarthur (formerly Milperra CAE), like Nepean a post-World War Two creation, and Hawkesbury, formerly Hawkesbury Agricultural College, with a history of more than a century. We turn in the following section to a sketch of UWS and its distinctive region.

In Britain the days of easy and often unquestioned growth in higher education from a small and elite base continued after the Robbins report only until the economic rationalism of the Thatcher administration was felt by universities, in the shock of 1981. Thereafter growth has been predicated on a declining unit of resource and growth of non-governmental income, along with greater transparency and public accountability, such that the proportion of income "earned" outside government (Funding Council) grant has become a key comparative indicator. In Australia, a much younger system, participation rates climbed earlier and have remained higher than the British through recent times. Whereas Britain is recognised as having entered the era of mass higher education, informed discourse in Australia is of the transition from mass to universal.

Fully funded growth, albeit at a less generous level than had held for the elite pre-Thatcher British system(s), continued through the early nineties, until the Coalition (conservative) administration of Howard displaced Labour in 1996. (Higher education has been a federal not a State matter in Australia since the Whitlam administration of the early seventies.) The change which occurred with the 1996 budget echoed the Thatcher cuts of 1981. Not that the level of grant dropped dramatically. Instead, students were required to pay more with the modified and variable-level new Higher Education Contribution Scheme (HECS). Funded numbers flattened and have now reduced a little; still a severe shock after years of fully funded growth, which it was assumed would continue. More serious, the government declined to meet the cost of salary increases. With academic and general staff salary increases of 12-13% over two years (1997-99) at most universities, the effect was a dramatic fall in the effective purchasing power of the grant. Australian universities were thrown more onto their own resources, very much as happened in Britain fifteen years earlier.

The result has been a sharp change in the temperature of the environment for university management. It has become chilly in terms of political support and public funding; heated in terms of political relations, inter-institutional competition, and now in 1999 in relations with the campus unions – mainly the academic union (the NTEU), and the CPSU for most general staff. The oldest and most prestigious

universities (known as the "sandstones" or the "great eight") argue for greater concentration of government research funds in their favour, on the ground that only a few truly international "research universities" can be afforded. A leader among these, Melbourne, led the formation of the international club U*niversitas* 21. All the sandstones withdraw in 1999 from the employers' federation (AHEIA) in an attempt to win greater negotiating freedom with NTEU, and favour with a federal administration hostile to unions and committed to reducing public expenditure.

In the background lurks the West review of higher education completed in 1998 (West, 1998). The report was immediately set aside by the federal Minister for Education. However its recommendations, and especially those of the libertarian economistic consultant Global Alliance Inc., remained to haunt university administrations. One controversial change introduced for 1998 allowed universities to offer full fee places to home undergraduates, something hitherto proscribed. Several, mostly sandstone, universities took up the opportunity against vigorous student opposition. Others refused on principle, or through a calculation that they would not gain in a prestige-driven market-place. The numbers recruited in the first year, 1998, were very small, but full-fee places, like top-up or deregulated fees, exist as the leading edge for one aspect of partial privatisation.

The impact of declining public funds, cost of salary increases and the third round of Enterprise Bargaining which dominates the university political landscape in 1999, has forced institutions into hungry, highly competitive and at times ethically dubious forms of activity. Competition, for full-fee overseas students (known as international), research income, and high quality domestic undergraduate and research students, is fierce, and dominated by the cheque book. Despite a political rhetoric for diversity, there is a tendency for all institutions to compete for the same markets and the same prestige and reward systems. The language of the market place (customers and products, throughput and output) mingles with the language of modern management (total quality and MBO, world class, down- or right-sizing, delayering and outsourcing), and with an anxious discourse: of standards and excellence, quality or its absence, and increasingly of client service, student satisfaction, and graduate outcomes.

Other manifestations of the new environment include the creation of private subsidiaries, the most prominent being Melbourne University Private, and of spin-off companies and more commercial arms. The new discourse includes strategic alliances as well as competition. Every university has some form of partnership with the Technical and Further Education (TAFE) system and often also with private VET (vocational education and training) partners. An impression from one familiar with both the Australian and British systems is that a competitive market and unconventional not to say unethical behaviour is much more evident and ruthless, as well as more sudden in its arrival, in Australia. It sits uneasily with a tradition of opportunity, access, equity, and behind that of easy-going mateship. These tensions

make the changing behaviours of Australian universities and the new learning of their managers topics of significance and fascination.

GREATER WESTERN SYDNEY (GWS) AND THE NEW UNIVERSITY OF WESTERN SYDNEY (UWS)

Sydney, with a population which reached 4 million in 1999, has four universities in its Harbour-based eastern half including two of the "great eight", Sydney and New South Wales, as well as Macquarie and the University of Technology Sydney (UTS). There is also a branch of the nation-wide multi-campus Australian Catholic University. The western half of Sydney, usually known as GWS, had no university until 1989. There had been plans for a university to be founded at Penrith in the West, named after a leading Australian former statesman, Ben Chifley. Land set aside for this purpose became part of the estate of Nepean and so from 1989 of UWS. One university, created by federating three CAEs, thus now serves the newer half of Australia's largest city and urban conglomeration, containing 10% of Australia's population.

GWS is characterised by energy, variety and relative disadvantage. It displays huge ethnic, cultural and religious diversity. It is a main reception area for new settlers to Australia: economic migrants and political refugees from all parts of the world. It has the largest concentration of the most severely disadvantaged of Australian "communities", Aboriginal (and other indigenous) peoples, in New South Wales, and now a strong influx of also disadvantaged Pacific Islanders, as well as refugee groups such as Bosnians and Kurds, who appear within the student mix.

Unemployment is high. Very small to small-medium enterprises dominate throughout the eleven local authority areas (mostly also known as cities and proud of local identity and tradition) which, like private sector industry and business, are grouped in a multitude of development and lobbying bodies jostling to advance the interests of the West.

Participation in higher education is low compared with the affluent half of Sydney, and also with the State of Victoria. It is, for all that, much improved with the growth of UWS during the nineties. Like most other social indicators across areas of health and welfare, this reflects the relative disadvantage of the West, captured in such terms as "westies" and "battlers", now, like "black", adopted as badges of pride. Offsetting its current easily quantified disadvantages GWS also has huge potential. It is a key to the economic future of the State and ultimately of the nation, with a larger population than the whole of such States as South Australia and Western Australia each with several universities, and something like a quarter of the nation's under-fives.

UWS celebrates its 10th anniversary in 1999 with over 30 000 students. This makes it one of the country's largest as well as fastest-growing universities, now officially fifth in size. (The picture is complicated by mergers between some Victorian universities and TAFE institutes which have produced big conglomerates in that State.) UWS has written access and opportunity as well as partnership with GWS as its "learning region" into its mission statement and strategy (UWS, 1997). Its vice-chancellor describes it as a social justice university.

The three parts of UWS vary significantly in character and size. The smallest, with a quarter of total student load but above average research output for UWS because of its long tradition and science-based strength, is Hawkesbury. It still occupies its old agricultural college campus in the North-West (Richmond) and has recently opened a second campus at Nirimba, a disused military site near more central Blacktown City, which is distinctive in being a multi-institutional partnership between State and Catholic high schools, a TAFE college and UWS. It shares various facilities and has agreements for easy progression between the institutions – referred to in Australia as "seamlessness".

In the South-West of Sydney Macarthur, with approximately a third of UWS student load, occupies a purpose-designed green-field campus at Campbelltown, an area of rapid growth and serious socio-economic disadvantage. It also has an older inner city campus at Bankstown, with a diverse ethnic community mix, especially Latin American refugees. Macarthur has been highly innovative, with courses in aeronautics and more recently traditional Chinese medicine, and sponsored chairs in gambling. It has made special efforts to attract "high-fliers" with high UAI (universities' admission index, formerly TER) scores achieved at the year twelve higher schools certificate examination. The common practice for high achievers in upper secondary education in the West has been to take the train to one of the older CBD universities. Sydney's spokes-of-a-wheel travel pattern, both road and rail, facilitates this while inhibiting travel between the different campuses of the University across the western part of the wheel.

In the central West, on the line of earliest European settlement, first at Parramatta and then at Penrith and Emu Plains for the crossing of the Nepean River and the Blue Mountains, Nepean is geographically central, with some 46% of student load. The three campuses of Nepean at Werrington-Kingswood (the main site of the Nepean CAE) are now treated as a single Penrith campus, and run together with the Nepean College of TAFE which sits almost as an enclave within the Penrith campus.

The other main Nepean site is at the upper limit of Sydney Harbour's salt water on the eastern side of Parramatta, site of earliest European settlement and now Sydney's second CBD. On the other side of Parramatta, Nepean has retained one of its earlier Parramatta Westmead campuses, which sits beside Australia's largest

health industry complex. This has been redefined (like Werrington North on the Penrith campus) as an "innovation precinct".

Not surprisingly, given these facts about GWS and UWS, the University struggles among the less privileged Australian universities. Following rapid and sustained growth it is poor in infrastructure; strained in human resources (manifest for example in the poor staff: student ratio); below the Australian average in research student numbers and research income (though rising fast on both indicators); and without significant assets and reserves other than its own land and buildings.

Throughout UWS the majority of students are drawn from the immediate region, making this clearly a regional university. Some two thirds of graduating students are the first in their family to attend university. More than a third come from a home where English is not the first language. Nonetheless, graduate employment is strong for a region of high unemployment. An impression, supported by recent trends in UAI cut-off scores and in terms of the numbers of first and other preferences for UWS, is that the University, and within it Nepean, is becoming a university of first choice for more people in GWS. Thus Nepean in 1999 attracted twice the number of first preferences of successful and highly regarded Wollongong University. UWS is achieving a strong reputation, both for being friendly and accessible but also for a number of its programs of study, which are distinctive and already highly regarded.

UWS NEPEAN – 1995-1997

A few months after a new vice-chancellor took up post at UWS the Nepean CEO attempted to remove Nepean from the UWS federation. In the event the Governing Body narrowly held the federation together and the CEO resigned. During the following interregnum until September 1996 Nepean was administered by an acting CEO, the most recently arrived of its eight deans and the person seen as least implicated among senior staff in what had appeared a virtually unanimous will to secede. The acting CEO was joined in a condominium by a very senior external administrator employed part-time as a watchdog for the UWS interest. Nepean remained in the fold as the distrusted, defeated and still incipiently rebellious yet largest and geographically central part of the University.

An externally chaired review led to new UWS arrangements through legislation in 1997. This created a dual system, with checks and balances designed to prevent a repetition of the 1995 crisis. The three member CEOs ("member" being the infelicitous statutory term used to describe the constituent parts of the federated system) became Presidents, as well as remaining Deputy Vice-Chancellors of UWS. Each member appointed a new Council analogous to that for a unitary university, the chair of which became Deputy Chancellor of the UWS governing body now called the Board of Trustees. The CEOs (Members presidents) now report both to

their respective Councils and their Deputy Chancellor Chairs and to the Vice-Chancellor, with whom they constitute a senior management team. Within each member the full structure of a conventional university was replicated with an Academic Board, the term Academic Senate being reserved for the analogous body at the federation level. The Nepean Council and Board have familiar linkages and reporting lines, each with its own set of sub-committees and where necessary working parties, etc.

The workings and continuing evolution of the federation, including recurrent angst about the nature of the University (rationalisation and synergy, diversity and centralisation, the division of responsibilities at system and member level and the associated protocols) are not the focus of this paper. They provide a context for examining management strategy within the erstwhile rebellious largest member. It is however relevant that the crisis, and the ambiguity of the federated system, weakened the market position of UWS in its community and region, as well as in marketing overseas. Immediately it was important to generate a sense of direction and purpose, and to win back confidence in the local region, which remains vital to the University's success. Debate about federation continues, and the new legislation remains to be fully interpreted into practice.

The debate was rekindled in a new form with the departure the Vice-Chancellor to the University of Western Australia. His successor was required to come to terms with a unique institution at a time of acute financial stringency caused by the change from almost automatic funded growth to reduced Government block grant and greatly accelerated "marketisation". "Head office", the Office of the Vice-Chancellor, might remain an issue for any who identified first with Nepean. Traditional academic suspicions of management and of its strategic planning and control continued to be exacerbated by the existence of two levels of planning and management. In principle direction is set at UWS level, management and implementation are a local matter at the Hawkesbury, Macarthur and Nepean level. The distinction can be less clear in reality.

Within Nepean centrifugal tendencies leading to the failed bid for autonomy had reproduced themselves within the institution. Separatism probably grew during the interregnum following the failure of "UDI". When a substantive CEO arrived it was to find eight faculties in varying degrees of open or covert dissociation from the interim CEO. The stress was added to by a sense of financial crisis following the 1996 federal budget. Attempts to control finances and make economies were blocked by some faculties. Academic promotions were on the point of becoming a faculty rather than central responsibility. The management consultants KPMG were just completing a report favouring yet greater devolution to faculties, as separate subsidiaries of a "holding company", while recognising the need to strengthen central financial capability to generate and share accurate financial data. Morale was poor, cynicism and suspicion high. The 1995 crisis left a mood of sullen defiance.

Nepean was in poor shape to survive in the Howard administration's new climate of economic rationalism. An immediate and chilling sign was the prospect in the (southern) spring of 1996 that enrolments for 1997 (the academic year coincides with the calendar year in Australia) were running 20% below target. The 1999 predicament of Thames Valley University in England has some resonances.

The first response was to institute a Nepean-wide process of reflection, refocusing purpose to confront new external circumstances. The overt agenda was to consider different arrangements which might better equip Nepean to manage its resources economically and win business in a competitive environment. The less open agenda was to gain a capacity for central steerage of an institution which now lacked strong shared identity, other than in a negative sense, and promised to drift in disarray. This required purposeful management and empowering staff, administrative, general and academic, some of whom complied with institutional purpose in only a token way. Yet it was clear that Nepean had a wealth of talent, having attracted innovators from more traditional universities to whom the challenge and opportunities of the West appealed.

A wide and protracted process of participatory consultation led by mid-1997 to a new structure for Nepean which in no way resembled earlier prospective sketches. It differed from the dominant pattern of less radical restructures sweeping Australian universities at the time in response to the difficult new circumstances adumbrated by the new federal government's resolve to cap and reduce public expenditure on higher education, and to shift the funding base towards other stakeholders, notably students or their families.

In place of eight faculties and over 30 departments the "new Nepean" comprises twenty academic schools along with two small academic centres. Existing research centres continued via affiliation to an appropriate school. The position of faculty dean ceased along with the faculties, at the end of 1997 when the schools took full effect, led by chairs who were formally elected, but in all but two cases identified by agreement without competitive election. The often conflictual and dysfunctional "Senior Managers' Meeting" (SMM) gave way to a monthly meeting of school chairs which, like SMM, was joined by Nepean's senior officers. These meet fortnightly as the President's informal advisory group. The school chairs quickly developed an invigorating and mutually supportive culture, providing a venue for critical thinking, contributing to policy and administrative developments, exchanging ideas and good practice, and assuming a sense of shared ownership of institutional direction and purpose.

Once the basic process of academic restructuring was resolved, and as it moved through Academic Board to Council via Green and White Paper stages, an equally far-reaching remaking of administration occurred. The large, rather bureaucratic and not user-friendly, central divisions, Registrar's, Human Resources and

Finance in particular, were reduced to smaller more strategically focused units. The majority of the staff were deployed into campus service centres – CSC – at Penrith and Parramatta. The CSCs were required to develop a client service oriented team approach, providing support to the schools locating at the respective campuses.

Because the main focus of "restructuring" was on the academic areas as the university's "core business", changes affecting administration lagged behind. This reinforced the sense of two-class citizenship which had been identified as one of Nepean's cultural problems and addressed in modest ways, although the changes perpetuated and indeed exacerbated it. The change process required academic staff to identify where they thought they best belonged in the new academic structure. The new schools formed themselves around these groupings of common purpose. Every individual was required to make a choice and a commitment. In some cases the name of the new school was almost the last thing to be decided. Several of these names have been under subsequent review, three being changed a year later.

For general staff, especially the administrative and clerical (technical and manual staff were less directly affected by the changes), the process was less of choosing than of being chosen. Support posts were advertised internally throughout the schools. Those chosen moved from the faculties and divisions, leaving the remainder to stay in the greatly reduced divisions or to become the staff of the CSCs. It is not surprising that the CSCs have suffered problems of morale and low self-esteem. It is less evident that the residual divisional support staff have suffered in this sense, perhaps because they have enjoyed more stability and obvious continuity.

AFTER RESTRUCTURING – INSTITUTING INNOVATION

Four general principles were set down when the central academic restructuring was formulated. One was that there should grow up a process of continuous, non-revolutionary and non-disruptive adaptation. The changing environment, "markets" and "clienteles" of the university as a business as well as an institution were treated as a main reason for change. Every effort was made to look forward to a more entrepreneurial culture. Staff generally and the new schools in particular were exhorted to develop a sense of values, purpose and direction which would manifest itself in school academic plans, aggregated into a Nepean Academic Plan at Academic Board, and increasingly underpinned by business planning. The new constraints from reduced government funding (greatly exacerbated by non-indexation of salary awards which has reduced spending power) had to become an opportunity to teach and undertake research in new ways and with new partners. The harsh competition from stronger and older universities had to be redefined as a contest in which Nepean and UWS could win rather than guarantee to lose. Post-restructure, the approach was continuously to stress the need for continuous change, but within

this to create a measure of stability so that staff could work with more confidence and purpose.

The "new Nepean" was launched at the beginning of 1998. It coincided with the largest move in the history of Australian universities, to the reconstituted and "adaptively reused" Parramatta campus east of Parramatta city centre. One of the vacated Westmead campuses was sold to help pay for the refurbishment and move (AUD 4 million in a total exceeding 40 million); the other is becoming an income-generating "innovation precinct". The difficulties associated with the move to what was still a building site (in a country rigorous in its Occupational Health and Safety regulations) were formidable. Marquees were erected in case teaching space was unavailable when semester started ("tent city" in the popular media).

All this shifted attention from the radical restructuring to the drama of the move – but also from the past to a different future. Energy now came from schools and administrative teams wrestling with new challenges. Through no process of clever planning, this proved ultimately team-building, morale-building, and empowering. Public celebrations followed with the Premier on campus to launch a new UWS-wide Western Sydney Research Institute, then the first graduations to be held on campus in the fine new Auditorium, and an official opening by the Governor-General later in the year. The "new Nepean" presented its face very publicly to its regional partners and communities in the context of a more confident UWS which under new leadership was gaining a keener sense of itself as a leading partner in building Greater Western Sydney as a "learning region".

This constellation of events was fortuitous and beneficial. It did not take away the problem of persisting old culture and ways. A client service culture (being obsessive about this as a senior consultant to UWS put it) remained elusive. Older bureaucratic CAE ways reappeared as fast as they were addressed. A variety of devices was employed to foster the change, such as instigating recognition for outstanding service, and actively supporting grassroots initiatives. Some individuals moved laterally to new developmental positions, for example to create and strengthen partnership and articulation with local and overseas colleges, to develop a Nepean conference capability, and to get a firmer handle on occupancy and use of rooms. Particular internal interventions were chosen to signal how Nepean was to develop. Modelling responsiveness and client service from the top sought to point direction and set the tone. In a few cases of poor performance especially from a client service perspective, staff were terminated, and a few functions outsourced.

The idea was to foster a process of continuing innovation following restructuring – flattening the hierarchy or in the jargon "delayering". This was intended to produce a culture of innovation and self-renewal which enabled Nepean to develop a reputation for high quality and responsiveness, become less dependent on State

block grant, and diversify its income base. This meant people initiating and reinterpreting rather than merely accepting change. One prerequisite especially for academic staff was belief in the revised mission. Positive valuing of regional partnership could be experienced as threatening by those with conventional academic aspirations, for whom "region" might denote "second class". Positive valuing of entrepreneurialism had to be separated from any notion of "selling out" to the corporate sector. On both of these vital identity issues redefining and revaluing Greater Western Sydney as a rewarding and wholesome "partner" was central – both to sense of integrity and purpose and to community standing, leading to winning new and repeat business.

For all the talk of restructuring in the first twelve months of the new regime, the central concern was with cultural change and renewal. Given the lean times from 1996 a question asked with rising persistency has been "what can we cease doing altogether?", as well as "what can we do leaner and better?". This extends from teaching methods including flexible learning, collaboration across UWS and course rationalisation to the structure of the academic year and the optimal length of the surviving conventional semester. It involves reducing where possible the number, size and frequency of meetings of committees, and the number of stages for all approval and control procedures – financial, staff, student, etc.

On the other hand it has involved the creation of larger numbers of task-focused time-bound working parties to achieve particular results and shifts in direction, as well as more informal networks, alliances and liaisons across units within Nepean and beyond. A limited number of new standing committees and groups was chosen with cultural change and community building in mind. They included the regular meeting of schools chairs as a developmental middle management forum; an Internationalisation Group; a Savings Task Force to break the old spending culture while making specific changes; an Earned Income Group; and a deep-slice Organisation Development (or organising change) Committee to strengthen Nepean's capability to operate as a reflective learning organisation.

PROCESS AND STRUCTURE, BOUNDARIES AND CULTURE

What does this study of crisis and change management suggest for management in higher education more generally?

One response is that there is nothing new under the southern sun: we have seen all this before. Rediscovering abiding truths may be the name of the game, especially in times of rapid change and short memory. Ironically, a perceptive criticism of the radical Mrs. Thatcher has been her ignorance or denial of history. Discovery through rediscovery in the management of higher education involves looking – critically – beyond the particular literature of the sector to wider studies of organisation and social change. The sector tends to adopt the worn cast-offs of

management practice elsewhere, but to miss the deeper implications of changing insights and practices in seeking models and lessons for its own admittedly unique change management requirements.

There are also unique conditions to do with national culture and tradition, within which management practice can become avoidably entrapped as well as being unavoidably embedded. In Australia barely recognised authoritarian and bureaucratic assumptions have roots deep in convict and colonial history and nurtured by low self-confidence characterised as cultural cringe and a "tall poppy" syndrome. In such an unconscious shared culture it is hard to be truly different, although the rewards may by the same token be the greater. Specifically, there is a tendency to take refuge in structures rather than processes, to value tangible measures and quantified targets almost exclusively without attending to the more important longer term cultural change. Vision and a sense of the possible are then impoverished.

As to rediscovering earlier wisdom and putting it to work, the insights of open systems thinking best exemplified through the action research, reflection and conceptualisation of the late Australian-born but internationally experienced Fred Emery well illustrate the point. The large agenda, but also the tactical path for managing immediate crisis and long-term redirection at UWS Nepean, were in a sense scripted by Emery's reading of turbulent environments and socio-technical system behaviours in the sixties (Emery, 1969). Similarly for much of the organisational behaviour literature of that period which took direction from studying the psycho-social life of organisations and the behaviour of groups within them. The insights of the best of this earlier organisation development literature are taken further in the best of the more recent learning organisation literature, leaving aside that which tritely equates learning organisation with training company.

This earlier tradition was largely submerged as economic rationalism invaded management theory and behaviour in the form of business re-engineering, downsizing and out-sourcing. For universities in unstable, hostile and resource-lean environments rationalism rewritten as managerialism proves tempting and fashionable. Hard times demand tough management: in place of soft collegiality the so-called proletarianisation of the ill-disciplined and individualistic academic profession through hard-edged performance management. This temptation leads away not only from the cultural conditions which make universities important and unique, but also from the directions in which the more imaginative and insightful management theorists of the nineties now point. There is a dangerous "hubris of leadership", whereby top-owned vision and control lead to an impossible expectation for what simply cannot be delivered in times of turbulence (Emery, 1969) or mess (Stacey, 1998). Whereas postmodernism has added existential doubt and reduced self-confidence, unrealistic claims to the certainty of a scientific and controlling management give no real refuge.

How does this relate to the crisis through which UWS Nepean recently passed, and the uncertainty in which, with all of Australian higher education, it continues to reside?

The vehicle for change in 1996-97 was "restructuring". This was tangible and understandable. If unwelcome, it is less threatening to the embattled and insecure than the ambiguity of "cultural change". Allied to a public dialogue about identity, values, directions and a changing outside world it allowed many in the institution to re-engage with their situation and to reconsider what their university was and where it was going. Gradually this has moved since early 1997, for many member of UWS Nepean, from "where is it taking me?" to "where are we taking it?".

In other words, process proved vital, more vital indeed than structure – even in the choice of structural change as the vehicle for a change process. Almost any structure can be made to work if there is the will. Any structure can be grid-locked and subverted if there is the purposeful intent so to do. A large number of structural changes, with much attention to process and fine detail, have occurred and continue at Nepean. Without these, in a tight and transparent inter-relationship, it would not be possible to move with confidence and widening of delegation and power to continue the process of evolution towards greater responsiveness, enhanced client service, and more vigorous and productive entrepreneurialism. A central purpose and vision is to create a congruent "learning organisation". Such an institution can serve as a leading partner within a learning region and learning economy (Goddard, 1997, 1998) and thereby become a successful entrepreneurial university as sketched by Burton Clark (1998), adept at new modes of knowledge production (Gibbons *et al.*, 1994).

The key issues addressed in this article are neatly captured by Andrew Pettigrew, in a summary of his recent analysis of 450 European companies. Pettigrew groups the key features as Structures (decentralising, delayering and project forms of organising), Processes (to do with IT, internal communication and new human resources practices), and Boundaries (downscoping, outsourcing and strategic alliances). High performance appears to correlate strongly with implementing change in many of the nine detailed elements. Only a small minority of companies, those which enjoyed significant performance benefits, carry out "the full multidimensional raft of innovative practices" (Pettigrew, 1999).

The key then, is cultural transformation and the integration of inter-related multi-dimensional change, that is to say, ongoing, in-built, non-traumatic "cultural revolution". A resulting reflective organisation is able to learn and adapt from its own experience, making the necessary internal arrangements (committees, task forces, working groups, decision paths) to enable this, and growing an ever-widening circle of "managers" engaging at all levels across the flattened formal structures in a living matrix mode. For this to succeed however, the nature, separateness and

"boundedness" of the institution also require address. In Emery's open systems terms, the university has to engage in a set of what we now call strategic relations with its environment, to network in ever more rich and complex webs with dual and multiple partnerships. The insights of studies such as those by Alter and Hage (1993) inform such practice.

Boundary riders or spanners are now recognised as important to institutional survival. Like Nepean's new articulation officers, its earned income group and its informal "offshore" good practice exchange network, they enhance dialogue and partnership both within the university and across its boundaries. Beyond these, other stakeholders, in this case mainly within the GWS region, become internal influences, co-planners, and ultimately joint owners and leaders of the university's destiny. Reciprocally, increasing numbers of university staff become involved in the activity and leadership of regional partners. They thereby join in new forms of research which partly finance and enable the university's fulfilment of teaching and research missions. Community service becomes not a third leg but an informing principle, a vital sinew within the two main kinds of "core business".

This article describes and analyses a chapter in the history of an Australian ex-college of advanced education turned university and traumatised by an early constitutional crisis: first from the familiar perspective of "process and structure" as Becher and Kogan (1992) put it, but also from a wider set of perspectives. These recognise the centrality of culture, and of the political and in themselves cultural difficulties of using this "soft" term in times when tough rationalist managerialism enjoys fashion and political support.

What may be new in this analysis is recognition of the way in which boundary management, and in older discourse the environment, are essential to facilitating and steering change. In fact it was the re-creation of identity and purpose ("mission") through transcending and even dissolving boundaries via new forms of partnership which promised a more confident future for UWS Nepean, assisting it to move beyond a deeply scarring past. It appears in 1999 that the levels of productivity and intelligent innovation across and between almost all of Nepean's new academic groups, in realistic engagement with the local and global environment, demonstrate that it has achieved a cultural transformation from unpromising circumstances. It has in the process created for itself the courage to be different.

References

ALTER, C. and HAGE, J. (1993),
Organisations Working Together, Sage, Newbury Park.

BECHER, T. and KOGAN, M. (1992),
Process and Structure in Higher Education, 2nd ed., Heinemann, London.

CLARK, B.R. (1998),
Creating Entrepreneurial Universities, Pergamon, Oxford.

EMERY, F. (1969),
Systems Thinking, Penguin, Harmondsworth.

GIBBONS, M., LIMOGES, C., NOWOTNY, H., SCHWARTZMAN, S., SCOTT, P. and TROW, M.(1994),
The new production of knowledge, Sage, London.

GODDARD, J. (1998),
"Managing the University/Regional Interface", *Higher Education Management*, Vol. 9, No. 3, pp. 7-27; 1997, "The Role of Universities in Regional Development", Newcastle upon Tyne, and other studies.

PETTIGREW, A. (1999),
Organising to Improve Company Performance Hot Topics, 1(5), University of Warwick.

STACEY, R. (1998),
"Creativity in organisations: the importance of mess", work in progress paper, University of Hertfordshire.

UNIVERSITY OF WESTERN SYDNEY VISION (1997),
2020 Sydney, UWS.

WEST, R. (Chairman) (1998),
Learning for Life. Final Report of the Review of Higher Education Financing and Policy, DEETYA, Canberra.

Managing Regional Collaboration in Higher Education

The Case of the North American Free Trade Agreement (NAFTA)[1]

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ABSTRACT

The North American Free Trade Agreement (NAFTA) *binding Canada, Mexico and the United States of America started on January 1st, 1994. This agreement which establishes a free trade zone between the three countries, also has provisions on manpower mobility, its corollary human resources development and on scientific and technological co-operation. These provisions have ample implications for higher education management from a trilateral perspective. How should higher education institutions train professional and scientific personnel for an effective integration into distinct national markets? What importance should be assigned to programs to foster the mobility of students and faculty between the three partners? What strategies should be favoured to enhance scientific and technological co-operation between the three countries, particularly within the North-South axis? This article presents a historical background of the different conferences on higher education that aimed at preparing the regional collaboration in higher education. It describes what has been accomplished so far relative to the collaboration in higher education within the NAFTA agreement. In this respect, the paper particularly analyses the procedures put in place for the equivalencies of courses and degrees and the strategies adopted to implement a scheme for the transnational mobility of students and professors in higher education. The paper also discusses the role of the private sector in research, education and training within the NAFTA agreement. Finally, the paper evokes some contentious issues and expected future developments of the trilateral collaboration in higher education.*

INTRODUCTION

The North American Free Trade Agreement (NAFTA) binding Canada, Mexico, and the United States started on January 1st 1994. The agreement, which establishes a free trade zone between the three countries, also has provisions for manpower mobility and its corollary, human resources development and scientific and technological co-operation. These provisions have definite implications for the higher education sector even if there are no explicit references to it. The *Annex* 1210.5 of the Agreement is often cited as the most significant element in the agreement that opens the way to trilateral collaboration in higher education. The *Annex* asks the contracting countries to develop mutually agreeable criteria for professional certification which would allow individuals to work in any of the three countries. The constraints of nationality and permanent residence as preconditions to work are thus eliminated.

Even before the start of the agreement, the three governments promoted two major trilateral conferences on higher education collaboration. The first Conference took place September 12-15, 1992 at the Wingspread Conference Centre in Wisconsin, USA. The second one took place September 10-13, 1993 in Vancouver, British Columbia, Canada.

The participants to the Wingspread Conference agreed to pursue the following objectives (Proceedings of the Wingspread Conference, 1992):

- Develop a North American dimension in higher education.
- Encourage an exchange of information on themes of mutual interest.
- Promote collaboration among institutions of higher education.
- Facilitate student and faculty mobility.
- Promote the strengthening of relations between higher education institutions and the public and private sectors in areas linked to the quality of higher education.
- Use the potential of the new technologies of communication and information to help implement the above objectives.

The Vancouver Communiqué comprised nine propositions for action (Report of the International Symposium, 1993):

- The creation of a North American Network of Distance Education and Research (NADERN).
- The introduction of a trilateral mechanism education/business on mobility, transfers and professional certification.
- The enhancement of relations between teachers and administrators.
- The establishment of an electronic data bank.

– The development of a trilateral program of exchange, research and training for students;

– The founding of a North American Corporate Higher Education Association.

– The elaboration of a plan for distance graduate training.

– The increase of financial support by agencies and foundations.

The last trilateral meeting took place after the start of NAFTA in Guadalajara, Mexico April 28-30 1996 (*Partners for Prosperity*, 1996). The report identifies several major challenges raised in presentations which should be translated into trilateral policies. Among the most relevant, one finds:

– Promoting collaboration in spite of diminishing public resources.

– Widening participation to involve more sectors.

– Supporting specific partnership projects rather than "general frames of reference".

– Including academic collaboration in North American foreign policy.

– Establishing academic networks of excellence.

– Maintaining government support as facilitator and provider of funds without bureaucratic structures.

STRUCTURING THE COLLABORATION IN HIGHER EDUCATION

NAFTA collaboration in higher education is structured through a Steering Committee composed of three members, one for each country, chosen by the respective governments, supported by a Task Force composed, albeit not exclusively, of prominent members of the higher education community. The dearth of business representatives is significant. As of April 7 1998, the three members of the Steering Committee were: Patrick Borbey, Director General, International Cultural Relations Bureau, Department of Foreign Affairs and International Trade (Canada); Robert Earle, Deputy Associate Director, US Information Agency; Eugenio Cetina Vadillo, Director General for Higher Education, Mexican Ministry of Public Education. Canada has appointed seven participants to the Task Force, United States six, and Mexico five representing the different sectors of higher education, business, government and international associations. Again, the presence of business representatives is minimal.[2] The Steering Committee schedules meetings, recommends the major policy initiatives and monitors the collaboration in higher education. The Task Force has a more specific orientation as it tackles different topics (or themes) of interest for higher education collaboration. After the Vancouver Conference, the Task Force set up nine different working groups that were responsible for the elaboration of the agenda of the Guadalajara meeting.

SOME INITIATIVES OF NORTH AMERICAN COLLABORATION IN HIGHER EDUCATION

This review of initiatives of North American collaboration in higher Education within NAFTA deals with three main aspects: *a*) the equivalence of courses and diplomas; *b*) the implementation of a mobility scheme for students and faculty; and *c*) the role of the private sector in research, education and training.[3]

Equivalencies of foreign course and diplomas

In Canada, there is no formal mechanism of accreditation for either higher education institutions or accrediting agencies themselves. However, with respect to certain professional accreditations, for instance engineering and architecture, there are national co-ordinating agencies that evaluate foreign diplomas. These national agencies are nevertheless under the authority of the respective professional association in each province.

With regard to postsecondary education, the equivalency of past training leading to a diploma in a Canadian postsecondary institution is evaluated by academic officials of each institution.[4]

The occupations regulated by the provinces pose a real problem in matters of accreditation. There are some initiatives to counter this problem. The province of Québec for the last 25 years has evaluated numerous foreign occupations and formal training for equivalency purposes. To date, there are around 60 000 decisions on referred cases. Ontario, Alberta, and British Columbia are considering, or already have, an office for foreign equivalencies (Whyte, 1996).

In 1989 the *Canadian Information Centre for International Credentials* (CICIC) was founded to act as a clearing house and information centre on professions and formal training. This agency is, according to Whyte (1996), more known outside Canada than in Canada. It consists of a central office which receives the information demands and channels them to the appropriate organisations.

Of interest here is the *Association of Accrediting Agencies of Canada* (AAAC). The Association is a grouping of national professional associations which accredits university level professional programs. The AAAC seeks to develop new models for accreditation and financing with the intent to establish norms and procedures of accreditation. The Association represents also the interests of accrediting agencies to the government, the professional associations, the training institutions and the private sector.

Canada and the United States are members of TRACE (*Trans-Regional Academic Mobility and Credential Evaluation Information Network*). More than 30 countries are members of this network which is co-ordinated by the International Association of Universities. Finally, the three NAFTA countries are members of APEC (*Asia Pacific*

Economic Co-operation). This last organisation has certain work groups on matters of accreditation.

There have been conferences to promote awareness of the impact of globalisation on the professions, for instance the one held in Cancún in May 1994 in which some 500 delegates of 25 professions from Canada, the United States, and Mexico participated. For some of these professions (architecture, medicine, administration, veterinary medicine) there has been notable progress in defining common standards (Prieto, 1996). The development of comparable evaluation instruments for screening at the onset of the training program is a basic input to establish quality control in professional training across the three NAFTA countries. A Spanish version of the SAT (*Scholastic Achievement Test*), the PAA (*Prueba de Aptitud Académica*) is more and more employed in Mexican universities. In 1995, around 100 000 students took this test. Both in the United States and Canada, candidates to graduate programs usually take the GRE (*Graduate Record Exam*). Another test for admission to graduate studies was developed by the *Instituto Technológico y de Estudios Superiores de Monterrey* (Mexico). It is now being used for admission to fellowships in the Fullbright program. Note that the *American College Board*, founded at the beginning of this century, whose main goals are the pursuit of excellence in education and the procurement of a smooth transition from secondary to tertiary education, is very active in promoting the elaboration of common standards for the professions (Deupree, 1996).

In the case of the United States, the federal government has no jurisdiction to accredit programs or institutions. It has, however, an indirect power in that several of its funding programs to institutions are tied to a previous accreditation by accrediting agencies. There are six regional accrediting associations. There are also several institutional accrediting agencies that accredit institutions on a national basis, notably in the domain of business programs. In 1995, only one regional accrediting agency, the *Southern Association of Colleges and Schools*, granted accreditation to foreign institutions. At that time, a committee of the *National Policy Board on Higher Education Accreditation* was working on the elaboration of a common policy for the accreditation of foreign institutions (Prieto, 1996).

In this vein, Diana Natalicio, President of the *University of Texas* at El Paso, has recently brought forward a proposal to the Steering Committee to bring together American, Mexican, and Canadian University Presidents to look "at the feasibility of devising a North-American membership-driven accrediting body to look into institutional and program accreditation in North America" (Report, 1998, p. 2). Some travel costs for representatives from their respective countries may be covered by the Steering Committee. Mexico is at an initial stage in the process of accrediting institutions and programs.[5]

Some other problems are associated with the general theme of course and diploma equivalencies. Among them, one finds the structure of the programs, the

counting of "credits", and the system of grading. In Mexico, professional programs follow a strict curriculum with no options, whereas in Canada, there is some flexibility allowing choice among optional courses. The number of credits required for a professional program varies from 90 to 120 in Canada, from 120 to 136 in the United States and from 300 to 450 in Mexico. Finally, the grading system that gauges student performance goes from literal grading to discrete (0-4; 0-9; 1-12) or continuous grading (0-100). The correspondence between grades under different grading systems is not always easy to determine (Mungaray-Lagarda and Sánchez-Soler, 1996).

The implementation of a mobility scheme for students and faculty

In this respect, there are a number of initiatives among institutions of the NAFTA countries as well as a trilateral program for assuring mobility of students and faculty. In 1994, ANUIES (*Asociación de Universidades e Instituciones Instituticones de Educación Superior de Mexico*) and the CREPUQ (*Conférence de Recteurs et Principaux des universités du Québec* – Canada) signed a Memorandum of Understanding to ensure a modest scheme of bilateral mobility. Under the Memorandum, students from both Québec and Mexico may take one year outside their institution of origin in a participating university with full recognition for the work done. At its initial stage, it comprised 28 Mexican universities and the majority of Québec universities. CREPUQ has also signed another memorandum with the *California State University System* to assure student mobility (Mungaray-Lagarda and Sánchez-Soler, 1996).

Through funding by the federal Department of Education, the *San Diego State University* has developed a program of double diplomas. The students from *San Diego State University* or the *Southwestern Community College* can obtain a degree or diploma from *Centro de Enseñanza Superior de Tijuana* (Mexico) or the *Universidad Autónoma de Baja California*. This arrangement is reciprocated (Mungaray-Lagarda et Sánchez-Soler, 1996).

The *American Accrediting Board of Engineering and Technology* received a grant from the federal government to elaborate a comparative guide of engineering programs in Canada, Mexico, and the United States. The project was aimed at improving student mobility by providing accurate information on different program alternatives in the three countries.

As a result of the work of the Task Force on Mobility, the three NAFTA countries launched, on June 1st 1995, an important although underfunded three-year mobility program (1995-1998), the North-American Mobility Programme in Higher Education. Each of the three governments allocated the equivalent of USD 1.2 million to execute the program.

The essential objectives of the program are:

– Encourage co-operation and exchange among Canadian, Mexican, and US higher education institutions.

– Increase the knowledge of the languages, cultures, and institutions of Canada, Mexico, and the United States.

– Improve the quality of human resource development in the three countries and explore ways to prepare students for work throughout North America.

– Augment North American student mobility, including promoting mutual recognition and portability of credits and developing joint curricula and where appropriate, joint degrees.

– Introduce an added value dimension to North American co-operation in higher education and training which complements existing forms of bilateral and trilateral co-operation among the three countries as well as other programs and initiatives.

The proposals will be considered to be enhanced if, in addition, they:

– Form partnerships in higher education and training to include others such as business, professional associations, and public authorities in the three countries.

– Encourage an exchange of expertise in new developments in higher education and training, for example training in new technologies for the mutual enrichment of educational practice in the three countries.

Proposals should originate from at least six institutions, two for each country. A Canadian forecast predicted that at least 60 Canadian institutions would be involved by the end of the project and approximately 400 students would benefit from the mobility scheme. The program solicited projects which "include means to facilitate student mobility including work placements, adequate language preparation and full academic recognition. As well, the development of innovative joint curricula and teaching materials, including those using new education technologies and distance education, will be encouraged. Projects involving student work periods related to their studies are also invited." (Gouvernement du Canada, Communiqué 95-37: 3.) The academic stays should be of a minimum of four months in one or more of the foreign institutions; the work placements should be of a minimum of four weeks.

The projects should normally last three years. Special attention was to be given to a joint planning phase to develop a framework for student visits, development of programs, language training, and credit transfer. Student mobility *per se* should begin towards the second year of the project. Projects are supposed to continue once the three-year financing period is finished.

Since an evaluation of this program has not already been published, it is not possible to assess its effectiveness with regard to the intended objectives. The future of this program is uncertain. At the moment of writing the paper [early 1999] there is no decision concerning the renewal of new three-year mobility program.

This matter is on the agenda of the next meeting of the *Trilateral Steering Committee* to be held on March 5 1999 in Mexico City.

The role of the private sector in research, education and training

Before the enactment of NAFTA, two select organisations in Canada and the United States sought to analyse and enhance the relationships between business and higher education. Known as the *Business Higher Education Forum* in the United States and the *Corporate Higher Education Forum* in Canada, these organisations had advised that economic growth is dependent, among other things, on an effective partnership between industry or the private sector, and the higher education sector. The two organisations were composed, from the beginning, of distinguished members of the business and higher education communities. The BHEF was founded in 1978; its Canadian counterpart was founded five years later.

The two forums have tackled the question of the globalisation of economy and the role of higher education. Their published studies are highly useful with regard to the theme of regional corporate-higher education collaboration. The *Canadian Forum* has shown a special interest in helping Mexico to create a business higher education forum which the *American Forum* also has supported.

Specifically, both forums took part in Working Group No. 7 (out of nine) defined at the Vancouver Conference. This particular group deals with the issue of a *North American Corporate-Higher Education Council and Consortium*. As yet, such a North American Council and Consortium has not been created, in part because Mexico has not yet created its own *Corporate-Higher Education Forum* (Roman, 1996).

There is however, some good news concerning corporate-higher education collaboration in a trilateral perspective. At its last meeting held in Ottawa, Canada on April 24, 1998, members of the *Trilateral Steering Committee on North American Collaboration in Higher Education, Research, and Training* reconfirmed the commitment of their respective governments to "the need for higher education collaboration between the three countries" (Report, 1998). The principal element of the agenda was a proposal presented by the *North American Institute* (NAMI) to which all three countries belong, on *an Alliance for higher Education and Enterprise in North America*. Founded in 1988, NAMI is a trinational public affairs organisation which studies the emerging regional space of Canada, United States and Mexico and the development of a North American community. The emphasis is on trade and the environment, institutional developments and the social-cultural roots of the three countries identities. The *Steering Committee* accepted the proposal on the "condition that the Alliance restrict its activities to the Alliance Program, designed to promote business-higher education collaboration and to build new strategic alliances between these sectors" (Report, 1998, p. 2). The program was officially launched in August 1998 at the tenth annual conference of NAMI held in Santa Fe (New Mexico,

USA). A few pilot projects have been introduced in the form of training courses in public administration and banking.

The proposed funding by the respective governments is very modest. However, NAMI will seek to improve the budgets through corporate donations. Canada will contribute CAD 200 000 per year for the fiscal years 1998-1999 (News Release, 21/08/98) for infrastructure and/or projects; Mexico indicated its intention of contributing USD 100 000 each year for fiscal years 1999 and 2000, with funding divided between infrastructure and project support; the United States would consider funding of up to USD 60 000 on a case by case basis (Report, 1998, p. 2).

SOME BASIC DATA ON ACADEMIC RELATIONS AMONG CANADA, MEXICO, AND THE UNITED STATES

This section presents data on academic relations among Canada, Mexico, and the United States. It is based on two reports on this matter prepared by the *Association of Universities and Colleges of Canada* (AUCC, 1996) and the *Institute of International Education* (IIE, 1997). The first report consists of a compilation of the information regularly collected from the member universities and entered in two databases: *Canadian Universities International Exchanges* (CUE) and *Canadian University Projects in International Development* (CUPID).

According to the AUCC report:

> "Two key findings are of particular note: First, since 1993 (compared to 1996), the number of academic agreements and projects between Canada and Mexico have increased 152%, from 33 to 83. Agreements with the United States have also increased 41%, from 68 to 97. Second, the data shows that the amount of Canadian university agreements and projects with Mexican institutions is on par with co-operation between Canada and the United States." (AUCC, 1996, p. i)

With regard to the type of agreement, they do not differ significantly from country to country. Most agreements are found in a broad category called "exchange agreements" (44.3% with the United States and 47.5% with Mexico). The research agreements are 5.7% with the United States and 2.5% with Mexico. The big imbalance between research agreements and other agreements should be noted.

If one considers the preferred disciplines, there are similarities between Canada and the United States. The preferred disciplines are found in the social sciences, business administration and law. A second group of preferred disciplines is formed by health and engineering.

The report by the *Institute of International Education* is more comprehensive than the one by AUCC. It consists of a survey of representatives of higher education institutions and consortia in Canada, Mexico, and the United States. The questionnaire was developed by IIE in consultation with the *United States Information Agency* (USIA),

Table 1. **Distribution of IIE sample by country and type of institution**
Percentage

Type of institution	Canada	Mexico	United States
Academic institutions	93.5	86.0	93.5
Non profit agencies and academic consortia and membership organisations	4.3	6.0	5.0
Government agencies	2.2	4.0	1.0
Research institutions	–	3.0	–
Business organisations	–	1.0	0.5
Percentage – Total	100	100	100
Total (number)	**46**	**96**	**201**

Source: IIE, 1997.

the *Department of Foreign Affairs and International Trade of Canada* and the *Secretaría de Educación Pública de Mexico*.

There were 46 responses from the Canadian sub-sample, 201 from US sources, and 96 from Mexican institutions (Table 1).

Sixty-seven per cent of Canadian respondents indicated that they have had trilateral exchanges, compared with 23% for US respondents. Only 9% of Mexican institutions reported having had trilateral exchange projects (IIE, 1997, 6).

The survey showed an increase in institutional linkages between 1990 and 1997. With regard to the United States, the linkages have tripled (from 57 to 190). Canadian institutions have increased their linkage programs ten-fold (from 7 to 73). Mexican institutions reported an increase in their linkages by 30% (IIE, 1997, 1).

The report analysed responses *vis-à-vis* the motivating forces for linkage activities. Excluding the category "other", "faculty contacts" was the most frequently cited category for all three countries. The second most frequently cited category was "request from a counterpart institution" (IIE, 1997, 9).

The IIE report contained also a chapter on evaluation of the linkages activities. According to the report:

> "among those who have assessed their linkages, the comments made most frequently rated linkage activities as generally satisfactory, reported difficulty in motivating US students to study in Canada, and cited problems related to funding". (IIE, 1997, 9)

Both Canadian and US respondents ranked trilateral agreements as a lower priority than bilateral arrangements because of problems related to administration (IIE, 1997, 3).

Finally, the respondents indicated that it was too early to assess their linkage programs. Most Canadian and US responses indicated "that results of Cupertino to date were inconclusive" (IIE, 1997, 3).

THE FUTURE OF TRILATERAL LINKAGES WITHIN THE NAFTA COUNTRIES

A report was commissioned in 1997 by the D*epartment of* F*oreign* A*ffairs and* I*nternational* T*rade of* C*anada*, with the agreement of the United States and Mexico, to recommend what steps should be taken to advance the work of the Trilateral Task Force over the next five to ten years (Roman, 1997). A survey was done in early spring 1997 as part of the project which yielded a respectable over-all response rate of 58%. The response rate of the three different sub-samples were: 79% for Canada, 43% for Mexico, and 47% for the United States. In total, 75 respondents (out of 130) returned a usable questionnaire: 38 from Canada, 20 from Mexico and 17 from the United States. It should be noted that the initial list was very selective and was elaborated in consultation with the relevant authorities and associations in each country. Special efforts were made to include leaders of business, business associations and foundations in the survey. In fact, 44% of respondents came from these sectors (N=33). It was the first time that such broad business participation in an assessment of trilateral linkages was attained.

To the question: "how relevant is North American collaboration to your work?", 75% of respondents believe that North American collaboration is either vitally or very important to their work, whether in higher education, business, foundations or government. Canadians are less positive in their evaluation. Sixty-eight per cent of Canadian respondents rated North American collaboration vitally or very important to their work, compared to 79% of Mexican respondents and a high 87% of American respondents.

Respondents were asked to rate the importance of different linkage activities. The list of linkage activities submitted was composed of the following: student exchange, faculty development, work mobility, international curricula, distance learning, joint R&D, standards, accreditation and community development.

The single activity to appear in the top four choices for all three countries is international curricula. Joint R&D appears in the top three for Canadian and Mexican respondents, but not American respondents. Student exchange is the second most popular choice for Canadian and American respondents.

The survey asked respondents to answer some questions qualitatively. Among them, one dealt with the steps to be taken to engage businesses and foundations more actively in trilateral initiatives. Roman (1997) summarises the answers in five propositions:

– Meet business and foundation needs, and meet them on their own turf.

– Identify champions and they'll bring in their peers.

– Create a new trilateral structure which includes business and foundations.

– Show the value of specific projects.

– Improve the information flow.

The *Steering Committee on North American Collaboration in Higher Education* tested four potential ways to organise the trilateral initiative for the future:

A. Establish a North American Clearinghouse based on Internet activity.

B. Continue on a project by project basis working through a funding body.

C. Create a new organisation representing all stakeholders to define future goals and procedures, with a secretariat.

D. Explore the possibility of continuing under a NAFTA commission.

Twice as many respondents chose multiple options as chose a single option. When a single option was selected, the order of preference was B first, A and C equal, D last. Where combinations were proposed, the preferred order was B, A, C, and D. Five respondents approved all four options. Three approved none, suggesting instead small, clearly focused occasional meetings organised by regions or issues, or large meetings held every few years to assess and report progress toward specified trilateral goals (with no indication as to how those goals would be set).

Two other options would not be endorsed by respondents nor by the author of the above mentioned report: declare a Task Force victory and cease the initiative and do not restructure, expecting the three governments (Steering Committee) to continue stimulating and assessing trilateral collaboration. According to Roman (1997):

> "First it is not realistic to expect governments alone to drive this initiative, especially since they would require active and sustained ministerial support and substantial funds and staff, both of which are difficult if not impossible to come by [...] Second, deciding not to structure further trilateral collaboration would remove the opportunity to capitalise on synergies as they arise." (pp. 6-7)

Roman advocates option C which she calls "an umbrella organisation".

> "In my opinion, choosing this option would signal a firm intention to expand the trilateral initiative beyond higher education and government, where it mainly resides at present [...] Perhaps option C is the true testing ground, then, for trilateral intentions. But it needs funding. And it needs the commitment of 'champions' from each sector who are respected by their peers and prepared to make this a priority for several years." (Roman, 1997, p. 9)

CONCLUSION

Although the overall assessment of the North American collaboration in higher education within NAFTA is positive, there is much need for a thorough revision of its structure, funding and programming. The question can be bluntly formulated: Is

it always necessary to have in all North American projects partners from the three countries? Administrative problems have inclined respondents of the IIE survey to rank lower in priority trilateral versus *bilateral* initiatives. North American collaboration in higher education from a trilateral perspective can also gain by improving bilateral agreements. When one institution of a NAFTA country has exchange programs with institutions of the other two countries on a bilateral basis, it may happen that the institutions that know each other's "way of doing business" wish to create a trilateral consortium.

The question of funding is paramount. When one compares the available funding for trilateral projects with other type of funding, one easily concludes that these projects are not ranked high in the three governments' priority list. The funding of the new *College of the Americas*, an initiative of the *Inter-American Organisation for Higher Education* whose headquarters are for five years at *Université de Montréal*, is a case in point. Although it exists only in principle since November 1997 and operationally since May 12, 1998, the Canadian government has promised a CAD 3 million, 1 million each year starting fiscal year 1998-1999. Comparing this sum with the meagre CAD 1.5 million for the trilateral projects program launched in June 1995, it is evident that the Canadian political horizon is already continental (North, Centre, South) and not simply "trilateral". Besides, Canada and Chile have signed a free trade agreement and Canada is the host in two years of a *Continental Conference of Heads of State and Governments of the Americas* on Free Trade. The *Santiago de Chile Conference* last spring attended by the leadership of the Americas (with the exception of Cuba) agreed in principle to start negotiations towards a continental free trade zone.

A clear indication of government intentions may come from the future for the *Program for North American Mobility in Higher Education*. The last year of the program was 1997-1998. At the moment of writing, the intentions of the NAFTA governments through the *Steering Committee* are not known. It is a matter to follow.

It seems clear that there has been, in the words of the *Steering Committee* (meeting of April 24, 1998), a lull since the Guadalajara Conference in April 1996. However, the trilateral perspective is far from being *une chose du passé*. In effect, WICHE (the *Western Interstate Commission for Higher Education*) is very active in this domain.[6] It regularly publishes working papers on issues relevant to the NAFTA countries and sponsors conferences and electronic information services. CONAHEC (the Consortium for North American Higher Education Collaboration), of which one of founding partners is WICHE, organised a conference in Vancouver in September 1998.[7] Also, the ELNET (Educational Leadership Network) administered by CONAHEC is a web site which specialises in the promotion of North American education exchange. According to a brochure of ELNET, it "allows its user to share important information with the goal of fostering dialogue and collaboration among Mexico, Canada, and the United States".

North American collaboration in higher education is at a crossroads. It certainly needs a new structure that will pull together the different partner: institutions themselves through their administrators and professors, higher education associations, governments, the business community (business and business associations), and foundations. It certainly needs more funding from diversified sources. And, it has, most importantly, to redefine its mission to ride the tidal wave of continental openness.

Notes

1. Revised version of a paper presented at the 10th World Congress of the World Council of Comparative Education Societies, Cape-Town, South Africa, July 12-17 1998. The author wishes to thank Sylvie Dubé from the Ministry of Human Resources Development Canada, Jean-François Bergeron from the Ministry of Foreign Affairs and International Trade Canada and Margo Schultz from the Western Interstate Commission for Higher Education (WICHE) for the valuable information provided. The author wishes also to thank in a very special manner Patricia Roman, former vice-president of Corporate Higher Education Forum (Canada) for the rich information provided and her most helpful comments and suggestions and Shirley Humphries for her assistance with the English. Any error or inaccuracy is the sole responsibility of the author. The opinions expressed in the paper do not necessarily reflect those of the above mentioned persons or agencies.

2. There were only two representatives from the business community as part of the Canadian delegation.

3. For a general assessment of accomplishments since the Vancouver Conference, see Mallea, Malo and Pendergrast (1998).

4. Eighty per cent of immigrants have occupations that fall in the category of occupations regulated by the provinces.

5. Natalicio's proposition raises some questions both in Canada and in Mexico. These two countries would not welcome an accreditation system based in the US experience and Natalicio's proposition may be interpreted in that sense. Nevertheless, there will be a two day seminar at the University of Texas in June 1999 to discuss matters of mobility and accreditation in line with Natalicio's proposition.

6. As of February 1999, WICHE has published 8 working papers in the series: "Understanding the Differences". Among them, note J.I. Gill and L. Alvarez de Testa (1995) "Understanding the Differences: An Essay on Higher Education in Mexico and the United States" and G. de la Garde, B. Landrum and B. Fernández Samuels (1997) "Teeming up: Higher Education – Business Partnerships and Alliances in North America" (1997).

7. The theme of the Seminar was "Vancouver Revisited: Moving to the Next Step". The seminar assessed the progress accomplished since the Vancouver Conference and tried to establish guidelines for future developments. There have been some significant accomplishments since 1993 such as the North-American Mobility Programme of Higher Education and the establishment of an electronic information base with data relevant to trilateral co-operation (ELNET). There is still much to be done, particularly with regard to the involvement of the business sector and the level of commitment of the respective governments (see Mallea, Malo and Pendergrast, 1998).

References

ASSOCIATION OF UNIVERSITIES AND COLLEGES OF CANADA (AUCC) (1996),
Academic Relations among Canada, Mexico, and the United States, Ottawa, AUCC, April.

DEPARTMENT OF FOREIGN AFFAIRS AND INTERNATIONAL TRADE (1998),
News Release, 21 août.

DEUPREE, J.L. (1996),
"La convergencia de los mecanismos para garantizar la calidad y los instrumentos de evaluación para el desarrollo de normas académicas", in M. Crespo and L. Yarzábal (eds.), *La integración de América del Norte y la educación superior*, Caracas, UNESCO/CRESALC, pp. 45-54.

GOUVERNEMENT DU CANADA (1995),
Communiqué 95-37, "Programme nord-américain de mobilité dans l'enseignement supérieur mis en œuvre en collaboration avec le Mexique et les États-Unis", 1st June.

"Identifying the Agenda" (1992),
Proceedings of the Wingspread Conference on North American Higher Education Co-operation: Racine, Wisconsin, September 12-15.

INSTITUTE OF INTERNATIONAL EDUCATION (1997),
Survey and Evaluation of North American Higher Education Co-operation, Institute of International Education, April.

MALLEA, J., MALO, S. and D. PENDERGRAST (1998),
"The Vancouver Communiqué Revisited: An Assessment", Working Paper No. 8 in the series *Understanding the Differences*, Boulder, Co., WICHE.

MUNGARAY-LAGARDA, A. and SÁNCHEZ-SOLER, D. (1996),
"La transferencia de cursos y títulos desde una perspectiva trilateral de la educación superior", in M. Crespo and L. Yarzábal (eds.), *La integración de América del Norte y la educación superior*, Caracas, UNESCO/CRESALC, pp. 55-68.

"North American Higher Education Co-operation: Implementing the Agenda" (1993)
Report of the International Symposium on Higher Education and Strategic Partnerships, Vancouver, September 10-13.

"Partners for Prosperity" – Third General Meeting on Higher Education, Research and Training Collaboration in North America (1996),
Guadalajara, Jalisco, Mexico, April 28-30.

PRIETO, C.R. (1996),
"La infraestructura educativa del TLC: una evaluación de las necessidades", in M. Crespo and L. Yarzábal (eds.), *La integración de América del Norte y la educación superior*, Caracas, UNESCO/CRESALC, pp. 91-100.

Report of the Meeting of the Trilateral Steering Committee on North American Collaboration in Higher Education, Research and Training (1998), Ottawa, April 24.

ROMAN, P. (1996), "Las universidades y las empresas: el respeto a las diferencias y el fortalecimiento del rendimiento", in M. Crespo and L. Yarzábal (eds.), *La integración de América del Norte y la educación superior*, Caracas, UNESCO/CRESALC, pp. 103-121.

ROMAN, P. (1997), "How to structure North American collaboration in higher education, research and training for the future", A Report Commissioned by Foreign Affairs and International Trade, Canada, April 30.

WHYTE, F.R. (1996), "La equivalencia de cursos y diplomas en el contexto de América del Norte", in M. Crespo and L. Yarzábal (eds.), *La integración de América del Norte y la educación superior*, Caracas, UNESCO/CRESALC, pp. 35-44.

Institutional Funding and Managerial Differences in Racially Dual Systems of Higher Education

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ABSTRACT

Since their founding in the United States under a racially dual system, public colleges and universities serving predominantly blacks' higher education needs have experienced funding and financial circumstances that differ from higher education institutions serving predominantly white populations. Past funding disparities have thrust different managerial pressures on college and university decision-makers with regard to the internal allocation of institutional resources. These historically black colleges and universities continue to provide unique higher educational opportunities for blacks, but their survival has continued amidst ongoing questions of whether or not they have been placed on equal financial footing with their publicly supported and still predominantly white sister institutions. The present article presents analyses addressing the extent to which differences in external funding sources and internal allocations of resources arising from managerial decision-makers persist between these historically black and white institutions of higher education and considers potential future implications as changes in funding patterns sit on the near term horizon.

In the United States, a racially segregated system of higher education emerged in the 1860s soon after the Civil War. Southern states and some of their bordering neighbor states utilized land grant endowments for funding the formation of public colleges and universities to serve blacks' higher education needs separately from whites. In 1890, the racially dual system that was well underway was given legal sanction under the auspices of "separate-but-equal", where the courts stipulated the latter as equality in funding. However, the dual system of higher education that arose under *de jure* segregation was found to be anything but financially equal in funding, hence educational opportunities. Even following the many legal challenges to inequality that produced the Brown *vs.* Brown (1954) Supreme Court ruling that

"Separate education facilities are inherently unequal", the Civil Rights Act of 1964, and the corresponding mandates to desegregate education, de facto segregation persisted in the provision of public higher education throughout the southern states.[1]

Throughout the 1970s and well into 1980s legal challenges continued to pressure violating states to comply with desegregation mandates and to put their predominantly black and predominantly white colleges and universities on equal fiscal footing. Even as recently as 1996, the US Department of Education threatened to reopen a discrimination lawsuit when it was rumored that the state of Ohio proposed closing its only public historically black university amidst financial difficulty.

These now historically black colleges and universities continue to survive and provide unique higher educational opportunities for blacks. Their survival, however, has continued in an environment of disparate funding circumstances that has additionally placed managerial pressures on college and university decision-makers that significantly differ from their counterpart institutions serving predominantly white populations. Indeed, questions still arise as to whether or not and to what extent these historically black colleges and universities stand on equal financial footing with their public supported and still predominantly white sister institutions.

It is the purpose of this article to explore those questions from a number of financial perspectives, including differences between publicly supported historically black and predominantly white colleges and universities with regard to alternative financial resources and the resulting impacts such finances carry for differences in managerial decision-making with respect to the internal allocation of university resources.

INSTITUTIONAL DATA AND METHODOLOGY

In attempting to study the institutional funding and managerial differences of higher education institutions, the availability of data, as with all empirical work, is the constraining factor. For this study, data were obtained from the United States Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS). Raw IPEDS data for individual institutions of higher education as related to institutional characteristics, funding, expenditures, and faculty status and salaries were used from the 1995 Finance Survey,[2] 1994-95 Salary Survey,[3] and the Institutional Characteristics Surveys for 1994-95, 1995-96, and 1996-97.[4] In this case, the period of study was constrained by NCES's most recent final release of the 1995 Finance Survey which pertains to the1994-95 academic year.

For the 1994-95 academic year, a complete profile for individual institutional finances, faculty status and salaries, and characteristics was constructed by merging the 1994-95 finance, salary, and institutional characteristics raw data. The merged data set resulted in more than three thousand postsecondary institutions accredited

at the collegiate level, including 103 historically black colleges and universities. This data set was culled so as to focus on publicly controlled, state supported, four-year degree and above, historically black institutions and their predominantly white counterparts. Thus, privately controlled and two-year degree granting institutions were excluded. In addition, publicly controlled specialized institutions such as medical colleges, textile centers, and health sciences institutes were excluded. The entire culling process produced a final data set comprised of 31 public four-year historically black colleges and universities and 176 of their predominantly white counterparts grouped accordingly over 14 different states.

The data set presents a rich opportunity to measure the extent to which there exists intrastate differences in the dependency on various revenue sources, governmental funding, and the internal allocation of resources among historically black compared to predominantly white institutions of higher education.

With respect to overall funding, sources of current funds revenue were computed for individual institutions and then averaged across each historically black college and university group and predominantly white college and university group within a state.

To capture differences in the internal allocation of resources, the same computations were performed with respect to education and general institutional expenditures, including instruction, research, and administration. Here, an attempt was made to focus as best as possible on the internal decision-making process in allocating resources within the institution based upon discretionary sources of funding, *i.e.* based upon revenues generated by the institution. Thus, excluded from the expenditure profile of institutions were restricted expenditures for scholarships and fellowships allocated by sources external to the institution, *e.g.* Federal Pell Grants. Unfortunately, the data precluded the same dichotomy when examining institutional research expenditures. Thus, research expenditures include both externally generated research funding as well as internally sponsored research. To compute a measure of the internal allocation of resources to administrative functions, the NCES's definition of administrative expenditures was employed. The NCES defines "administration" as expenditures on academic support and institutional support excluding library expenditures.

In developing measures of institutional labor costs and the allocation of labor costs to different institutional functions, two separate IPEDS surveys were utilized. First, the finance survey was used for determining the total institutional labor costs and the proportion of total educational and general expenditures allocated to labor. Second, the faculty survey was used to disaggregate full-time faculty salary compensation from total labor costs so as to get an overall measure of faculty resource utilization.

ANALYSIS

While the primary focus is on intrastate differences in the funding and internal resource allocation decisions between historically black and predominantly white institutions of higher education, the results also reveal significant interstate differences within each group that are critical to the analysis.

External funding

Table 1 presents the results of the decomposition of revenue sources by institutional type within each state. Institutional revenues from a particular source are computed as a percentage of total current funds revenue, excluding revenues derived from hospitals. While all revenue sources are not accounted for, among historically black institutions, tuition, state appropriations, federal grants, and sales capture a minimum of 90% and a maximum of 98% of total revenues. Among predominantly white institutions, the range is 88% to 95%.

Table 1. **Revenue sources as a percentage of total revenue**

State	Historically black institutions				Predominantly white institutions			
	Tuition	State appropri-ations	Federal grants	Sales	Tuition	State appropri-ations	Federal grants	Sales
	%	%	%	%	%	%	%	%
Alabama	20	42	20	13	24	41	12	16
Arkansas	17	38	30	9	22	43	13	16
Delaware	23	43	16	16	38	19	9	22
Florida	19	41	21	9	16	49	12	14
Georgia	15	39	24	15	22	46	9	15
Louisiana	23	33	26	15	30	36	12	16
Maryland	25	39	16	15	30	38	6	21
Mississippi	18	35	28	17	21	39	13	19
N. Carolina	12	51	17	17	13	46	9	27
Pennsylvania	23	43	15	14	45	30	7	13
S. Carolina	19	36	23	20	32	35	9	17
Tennessee	21	39	25	12	20	48	9	15
Texas	18	38	26	13	22	47	10	14
Virginia	25	29	19	21	27	29	8	25
Mean	19	40	21	15	28	39	9	16

Source: Computed by author based on data from the United States Department of Education National Center for Education Statistics, Integrated Postsecondary Education Data System, Finance Survey, FY 1995.

Here, tuition revenue includes tuition and fees assessed against students. State government appropriations include revenue received by the institution through acts of legislation, but excludes state grants and contracts. Grants and contracts received from federal agencies for research and training programs are included in the revenue source identified as federal grants in Table 1. Sales revenue is a more comprehensive source of revenue. In this study, it is computed as the sum of revenues generated from four sources, including: sales of educational services and goods such as testing services and university presses; auxiliary enterprise revenues such as residence halls and intercollegiate athletics; revenues from independent operations such as research and development centers; and revenues from miscellaneous sources.

As indicated in Table 1, the dependency on various revenue sources varies significantly from state to state for both historically black institutions and predominantly white institutions. However, as a group, historically black compared to predominantly white institutions are much less dependent on tuition as a source of revenue. That is, on average, tuition charges comprise only 19% of total revenues for public historically black institutions compared to 28% for public predominantly white institutions. But, both the inter- and intrastate variations are significant.

North Carolina institutions are consistently much less subject to tuition market forces. This holds regardless of whether they are historically black institutions gathering 12% of revenues from tuition or predominantly white institutions gathering 13% of revenues from tuition. In contrast, the typical historically black institution operating in either Maryland or Virginia must acquire 25% of revenues from tuition. And although their predominantly white sister institutions are even worse-off in this sense (30% and 27%, respectively), they do not reside among institutions in the highest tuition dependency state. For predominantly white institutions, that is reserved for those operating in Pennsylvania where 45% of revenue funds must be derived from tuition.

Overall, on an intrastate basis, historically black colleges and universities relative to predominantly white institutions demonstrate less dependency on tuition revenue. The only exceptions are Florida and Tennessee, where historically black institutions rely slightly more on tuition revenue with a white-black group differential of –3% and –1%, respectively.[5] At the other extreme, the largest positive white-black group differentials exist in Tennessee (22%), Delaware (15%) and South Carolina (13%).

Of course, in the public sector, higher education revenues not collected from tuition charges levied upon the direct beneficiaries of education are generated from the indirect beneficiaries through the tax mechanism. Generally, these subsidies in the form of state appropriations have provided the largest source of revenue for public colleges and universities. In this case, the present groups of institutions are no different. In fact, the results presented in Table 1 show that in the aggregate,

historically black institutions are at par with predominantly white institutions with respect to their relative dependency on state provided monies, *i.e.* 40% *vs.* 39% of total revenues. However, again there exists wide inter and intrastate variations.

As expected, with a low institutional dependency on tuition revenues, North Carolina is a public subsidy friendly state, providing 51% of the total revenue source for the typical historically black institution. This in comparison to Virginia, where state appropriations account for only 29% of historically black institutional revenues. Yet, in this respect, Virginia's historically black institutions are on equal state appropriations footing with predominantly white institutions so that the white-black group differential vanishes. Such is not the case in other states. For example, historically black institutions in Delaware and Pennsylvania receive proportionally more state appropriations in the form of revenue sources and produce white-black group differentials of 24% and 13%, respectively. The reverse holds true in Tennessee and Texas, where the white-black differential is 9%, hence favoring predominantly white institutions in state appropriations.

A different funding pattern emerges on the federal government side. In the aggregate, historically black institutions receive 21% of their revenues from federal grants. predominantly white institutions receive only 9%. Unlike the variations in the state appropriations differential, the white-black differentials on federal grants are negative in each state, but range from –7% in Delaware to –16% in both Tennessee and Texas. Moreover, historically black institutions residing in states that receive relatively greater proportions of revenues from federal grants compared to their predominantly white counterparts tend to be on the shorter funding end with respect to state funding appropriations. That is, positive white-black state funding differentials tend to be offset by negative federal funding differentials. To some extent this supports the notion that there is a degree of substitution of state for federal funding.

The final and smallest revenue source of all higher education institutions is derived from sales of educational, auxiliary, and other enterprises. As a proportion of total revenues, historically black and predominantly white institutions are, in the aggregate, essentially equal (15% *vs.* 16%) with regard to their relative ability to generate revenues from sales. In fact, the intrastate variations in the dependency on sales revenue are the smallest of all revenue sources. With the exception of North Carolina's predominantly white compared to historically black institutions ability to generate 10% more revenue from sales, the white-black differential ranges from –3% in South Carolina to 7% in Arkansas. In addition, while not insignificant to the operation of any individual institution within a group, these revenue differentials can be attributed to institutional differences in residence hall capacity, the existence of research centers, and the mix of intercollegiate athletics, among other less measurable operations.

Internal resource allocation

Table 2 presents the results of the institutional decision-making regarding the internal allocation of resources as captured in the decomposition of expenditure functions within each state. Expenditures on institutional functions are computed as a percentage of total educational and general expenditures. As with revenue sources, not all expenditures are accounted for. Rather, the focus here is on the internal allocation of resources to instruction, research, and administration. When combined, these three expenditure components capture, on average, 72% of total institutional expenditures among historically black institutions and 71% of total expenditures among predominantly white institutions. The remaining proportion of expenditures excluded from the analysis is allocated to functional areas such as public service, maintenance, and student services. Expenditures within each of the three included, as well as excluded, functional areas, contain both non-labor and labor costs. In order to explore possible differences in the labor intensity of institutional expenditures, the salary and wage subcomponents of expenditures across all functional areas are aggregated and reported separately in Table 2 as the labor cost proportion of total expenditures.

Table 2. **Expenditure allocations as a percentage of total institutional expenditures**

State	Historically black institutions				Predominantly white institutions			
	Instruction	Research	Admin.	Labor	Instruction	Research	Admin.	Labor
	%	%	%	%	%	%	%	%
Alabama	31	9	26	51	41	8	17	57
Arkansas	37	17	22	59	44	6	16	57
Delaware	43	7	21	53	46	12	12	52
Florida	38	15	22	55	41	16	19	53
Georgia	40	4	29	54	49	7	20	57
Louisiana	45	5	27	61	50	7	17	60
Maryland	38	9	25	49	43	7	19	59
Mississippi	39	7	19	52	37	12	18	53
N. Carolina	45	5	24	62	46	8	16	60
Pennsylvania	43	0	22	51	45	2	23	57
S. Carolina	41	7	22	61	42	5	16	58
Tennessee	45	9	15	58	50	8	14	61
Texas	41	9	21	54	46	7	18	53
Virginia	39	6	23	54	47	8	19	61
Mean	41	7	24	55	45	7	19	57

Source: Computed by author based on data from the United States Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Finance Survey FY 1995 and Salaries, Tenure, and Fringe Benefits of Full-Time Instructional, Faculty Survey 1994-95.

With respect to the internal allocation of resources, historically black compared to predominantly white institutions on average spend proportionately less on instruction (41% *vs.* 45%), the same on research (7%), and more on administration (24% *vs.* 19%). As a group, their total labor cost as a proportion of expenditures are somewhat lower than that of predominantly white institutions (55% *vs.* 57%).

Compared to these group averages, there exists much wider interstate and intrastate expenditure variations among both types of institutions. For example, among historically black institutions, instructional expenditures range from a low of 31% of total expenditures in Alabama to a high of 45% in Louisiana, North Carolina, and Tennessee. Similarly, among predominantly white institutions the range is from 37% in Mississippi to 50% in Louisiana and Tennessee.

Institutions that allocate the most resources to instruction tend to reside in the same state regardless of whether they are historically black or predominantly white institutions. Louisiana and Tennessee are tied at the top on this account. However, the reverse does not hold for institutions allocating the fewest resources to instruction. For example, Alabama holds the lowest instructional expenditure allocation among historically black institutions but not among predominantly white institutions.

Comparisons across all states show that, with the exception of Mississippi, historically black compared to predominantly white institutions allocate proportionately less to instruction. The largest white-black differential with respect in instructional expenditures is 10% and exists in Alabama. The only negative white-black differential is fairly small at –2% and exists in Mississippi.

In the areas of institutional research and administration, the same magnitudes of variation persist on an interstate basis. In the historically black institution group, the proportion of expenditures flowing to research ranges from none in Pennsylvania to 17% in Arkansas. This is nearly matched in the predominantly white institution group with a low of 2% in Pennsylvania and a high of 16% in Florida. Thus, on this measure, Pennsylvania is the lowest priority research state among both groups of public institutions. However, the intrastate research expenditure differences are mixed. The white-black differential is negative in six states and positive in eight states – accounting for a mean intrastate difference of zero between all historically black and all predominantly white institutions.

In contrast to research, the relatively larger proportion of resources devoted to administrative functions exhibits wider interstate variations among historically black institutions (15% in Tennessee to 29% in Georgia) compared to predominantly white institutions (16% in Arkansas to 23% in Pennsylvania). Also, on an intrastate basis, in all states except Pennsylvania, historically black institutions allocate a greater proportion of institutional expenditures to administration. The largest differential is 10% in Louisiana.

Higher education is relatively labor intensive and about equally so among historically black and predominantly white institutions in that the total labor cost as a proportion of annual expenditure is 55% and 57%, respectively. One would generally expect that institutions allocating greater resources to instruction and hence incurring higher instructional expenditures to be higher labor cost institutions. The proposition is generally supported by the results presented in Table 2 for both groups of institutions. For example, within the historically black group, the high labor cost institutions in North Carolina are among the high instructional expenditure institutions. Likewise, within the predominantly white group, Tennessee institutions are simultaneously among the most labor cost intensive and highest instructional expenditure institutions. However, in this case the intrastate differentials between the two groups of institutions are equally divided, *i.e.* the white-black labor cost differential is positive in seven states and negative in seven states. The outlying labor cost differential occurs in Maryland where predominantly white institutions outstrip historically black institutions by a full 10%.

Faculty compensation

Although higher education is relatively labor intensive and higher labor costs tend to derive from higher instructional costs, it does not follow that faculty are allocated or capture the majority of labor costs in the form of salary compensation. In fact, the results presented in Table 3 support the contrary. Whereas the instructional expenditure focus of Table 2 included both non-labor and labor costs associated with all institutional labor, Table 3 presents only the full-time faculty salary allocation as a percentage of the total institutional labor costs. For additional comparative purposes, the mean full-time faculty salary is also derived along with faculty salary per annual credit hour production. The latter attempts to control for teaching workload differentials of faculty across institutions.

Indeed, full-time faculty salaries comprise well less than half of higher education labor costs. On average, among historically black institutions, full-time faculties receive 38% of the total labor cost outlays. It is slightly higher at 40% among predominantly white institutions. This difference is also reflected in the USD 3 635 white-black mean salary differential and to a lesser extent in the USD 2 white-black faculty salary per credit hour produced. Here again, large variations exist with respect to interstate differences within each institution group and with respect to intrastate differences between groups.

Within the historically black institution group, full-time faculty salaries as a proportion of total labor costs vary from a low of 30% in Florida to a high of 43% in Georgia. That variation is nearly the same among predominantly white institutions with Delaware at 32% and Arkansas at 46%. However, the mean salary variations are much larger, ranging from USD 36 362 to USD 48 222 within the historically black

Table 3. **Full-time faculty salary allocations**

State	Historically black institutions			Predominantly white institutions		
	Salary as % of total labor cost	Mean faculty salary	Salary per credit hour produced	Salary as % of total labor cost	Mean faculty salary	Salary per credit hour produced
	%	$	$	%	$	$
Alabama	35	36 967	54	35	45 304	50
Arkansas	40	37 214	72	46	41 285	67
Delaware	37	41 970	84	32	58 664	93
Florida	30	45 503	65	34	48 777	67
Georgia	43	42 226	45	43	44 632	42
Louisiana	36	36 362	41	44	37 966	51
Maryland	38	43 974	64	39	49 708	85
Mississippi	37	37 799	59	37	44 816	78
N. Carolina	39	45 614	81	37	48 343	85
Pennsylvania	39	48 222	110	41	47 304	76
S. Carolina	38	37 664	72	39	42 574	65
Tennessee	33	44 184	62	35	48 727	78
Texas	32	42 406	51	41	43 260	57
Virginia	41	43 189	63	40	48 494	83
Mean	38	41 975	65	40	45 610	67

Source: Computed by author based on data from the United States Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Finance Survey FY 1995, Salaries, Tenure and Fringe Benefits of Full-Time Instructional Faculty Survey 1994-95 and Institutional Characteristics Survey 1994-95 and 1996-97.

group and USD 37 966 to USD 58 664 within the predominantly white group of institutions. Interestingly enough, high mean faculty salaries do not necessarily produce high faculty salary allocations as a proportion of total labor costs. Witness, for example, that among predominantly white institutions, Delaware has the highest mean salary and the lowest percentage of faculty salary relative to total labor costs. This, of course, is consistent with the results presented above and in Table 2 where Delaware's predominantly white institutions produce the lowest labor costs as a proportion of total institutional expenditures.

On the other hand, the lowest faculty salaries tend to be accompanied by the highest faculty teaching workloads and vice versa. Louisiana's historically black institutions have the lowest mean faculty salary (USD 36 362) and the lowest mean faculty salary per credit hour (USD 41) produced. At Pennsylvania's historically black institutions, where there is the highest mean faculty salary (USD 48 222), faculty receive more than two and a half times the faculty salary per credit hour (USD 110) than at Louisiana. Among predominantly white institutions, the highest

mean salary at Delaware is also accompanied by the highest salary per credit hour produced.

In the aggregate and in ten of the fourteen states, predominantly white institutions allocate a greater proportion of labor costs to full-time faculty salaries. Moreover, in all fourteen states, faculty salaries at predominantly white institutions exceed that of historically black institutions. That white-black intrastate salary differential ranges from a low of USD 854 in Texas to a high of USD 16 694 in Delaware. But the intrastate differentials in faculty salary per credit hour produced are more mixed. In five states, predominantly white institutions have higher faculty salaries per credit hour produced. Maryland's white-black differential of USD 85 *vs.* USD 64 salary per credit hour is the largest. Yet, in nine states, the salary per credit hour differential favors historically black institutions. The most favorable differential exists in Pennsylvania where the historically black institution salary per credit hour is USD 110 compared to USD 76 among the predominantly white institutions.

CONCLUSIONS AND FUTURE POLICY IMPLICATIONS

The primary focus of this paper has been to empirically explore the possible extent of funding differences between publicly supported historically black colleges and universities and their predominantly white counterparts in those states within the United States where racially dual systems arose a century ago and where presently historically black higher education institutions continue to provide unique educational opportunities for blacks. Overall, the analyses support the general proposition that there exist significant differences in the funding and subsequently the internal resource allocation decision-making between these two groups of institutions. Those differences carry potentially important managerial and public policy implications at both the institutional level and at the federal and state government levels.

In the public sector of higher education, state and federal government subsidies and grants as opposed to direct tuition charges provide the largest source of operating revenues for colleges and universities. In the aggregate, this holds for both historically black and predominantly white institutions. However, when analyzed on a state-by-state basis, in several states the state funding mechanism tended to favor predominantly white institutions over historically black institutions. Simultaneously, however, federal funds flowing to historically black institutions compensated for the differential. In general, this revealed a tendency for the substitution of federal for state funding and somewhat relieved historically black institutions relative to predominantly white institutions from a dependency on tuition charges to students.

Yet, the future may hold in store a different pattern of funding for public colleges and universities. While recent years have already witnessed a decrease in

federal funds flowing to public institutions, projections suggest that this trend will continue at an accelerated rate. At the same time, state policy makers have been on the heels of public institutions continuously raising questions of accountability with regard to the use of state funding support and have threatened, if not started to implement, cuts in such support. Given the heavy reliance on both sources of funding, any future declines carry important policy implications for the management of both historically black and predominantly white public higher education institutions. However, based on the analyses presented in this paper, the burden of these changes in funding patterns will not fall equally on these two groups of institutions.

In fact, because historically black colleges and universities are, without exception, more heavily dependent upon federal funding, the managerial pressures to derive revenues from alternative sources will be greater. In the absence of greater state funding to offset the evaporation of federal funds, historically black relative to predominantly white institutions will likely have to seek disproportionally greater increases in tuition charges and revenues. That alone will place historically black institutions in a less competitive position compared to now. In addition, because these institutions have historically provided unique educational opportunities and higher education access to blacks, this suggests that as a group blacks will bear a greater societal burden of these changing funding patterns in the future.

What impact these potential changes may have on institutional decision-making regarding the internal allocation of resources is yet another uncertainty but likely to be a real managerial task facing all colleges and universities. Again, based on the results presented herein, the managerial tasks and decisions will differ for historically black compared to predominantly white colleges and universities. Although both groups of institutions are labor intensive, with labor costs consuming approximately 56% of total costs, historically black colleges and universities spend proportionately less on instruction and more on administration. Tighter external funding constraints may require across the board budget cuts in both expenditure components, while faculty salaries at historically black institutions are already significantly lower than at their predominantly white counterparts. Moreover, any attempt to lower per unit costs is also disproportionately more burdensome for historically black institutions where, as measured in this paper, the lower faculty salaries tend to be associated with higher teaching loads.

Additional legal implications are also potentially generated by both the current funding differentials as well as by the future policy implications of changing funding patterns. In most instances it was the continuous legal challenges of the past decades that pressured states to comply with desegregation mandates and move their historically black institutions toward equality of funding with their predominantly white institutions. Along these lines, the analyses presented in this paper revealed that the better financial status of historically black institutions in a

few states tended to mask the disparate funding footing of historically black institutions in many other states. However, whether or not such funding differentials are sufficient to continue such legal challenges is certainly beyond the scope of this paper and is better left to the courts. On the other hand, as pointed out above, forced changes in funding patterns that may be on the near term horizon could potentially disrupt the current legally perceived or determined equality of funding and give rise to a resurgence of legal oversight to assure compliance with past mandates to achieve funding equalities.

In summary, as a cautionary note this paper cannot claim to produce definitive evidence regarding the existence of either inequality or equality of funding between historically black and predominantly white institutions of higher education. There are widely mixed results that could, in part, arise from fiscal discrimination in the apportionment of public monies or, in part, from differences in institutional missions and particularly the uniqueness of the missions of historically black colleges and universities. Improved data collection methods and subsequently additional research could build upon and shed additional light on the results and policy implications presented in this paper.

Notes

1. An extensive review of the historical and legal development of historical black colleges and universities and the dual system of higher education is provided in Sol Cohen, *Education in the United States*: A *Documentary History* (New York, Random House, 1974); United States Commission on Civil Rights, *Black-White Colleges*: *Dismantling the Dual System of Higher Education* (Clearing House Publication 66, April 1981); Antoine Garibaldi, *Black Colleges and Universities* (New York, Prager, 1984) and Carnegie Commission on Higher Education, *From Isolation to Mainstream*: *Problems of the Colleges Founded for Negroes* (New York, McGraw-Hill, February 1971).
2. United States Department of Education, National Center for Education Statistics, *Integrated Postsecondary Education Data System, Finance Survey* FY 1995 (Washington, DC).
3. United States Department of Education, National Center for Education Statistics, *Integrated Postsecondary Education Data System, Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey* 1994-95 (Washington, DC).
4. United States Department of Education, National Center for Education Statistics, *Integrated Postsecondary Education Data System, Institutional Characteristics Survey* 1994-95, 19968-97 (Washington, DC).
5. The white-black group differentials are the intrastate differences in the percentage revenue dependencies between historically black and predominantly white institutions. Instead of percentage point differences, this convention is used for convenience in reference to the statistical results and is employed throughout the paper.

UK Higher Education: Competitive Forces in the 21st Century

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ABSTRACT

This article considers UK higher education as a competitive business in the context of Michael Porter's work on the forces governing competition, focusing mainly but not exclusively on teaching. It identifies some of the critical factors that have influenced the balance of competitive forces in recent times, and identifies ways in which that balance is likely to change over the next couple of decades. Finally, it considers some of the implications that these developments may have for existing universities, and identifies grounds for optimism as well as reasons for concern.

PORTER'S FIVE FORCES

Michael Porter argues that the nature and degree of competition in any business sector can usefully be considered in relation to five major forces which between them determine the underlying attractiveness or profitability of the industry concerned (Porter, 1980). These five forces are: *i*) the jockeying for position and resources among existing competitors; *ii*) the power of buyers in the marketplace; *iii*) the power of suppliers; *iv*) the threats which can arise from the emergence of substitute products and services; and *v*) the strength of the barriers which keep out potential new entrants. Porter identifies the principal barriers to entry as: established cost advantages, including economies of scale; strong product differentiation and brand identification; the need for significant up-front capital investment; access to distribution channels; and the influence of government policy.

Porter believes that organisations need to understand the competitive dynamics established by the interaction of these forces in order to position themselves in such a way that they minimise their vulnerability to attack and maximise their chances of success. This at least involves building sustainable competitive advantages which are difficult for competitors to replicate. In addition, Porter and others

(*e.g.* Prahalad and Hamel, 1994) suggest that organisations can improve their position by actively influencing the structure of the industry itself. Indeed, not only the structure, but the very definition of the industry to which one might apply Porter's model is ultimately a variable, since the coincidence of major change across several competitive forces can create points of flux from which new conceptions of the business itself may arise.

In the context of Porter's model, this article contends that competition among higher education providers in the United Kingdom has been relatively tame over the past few decades but that a number of forces are now at work which threaten to destabilise this balance. It seems possible that the UK higher education market may even be approaching a point of transformation, and not just another period of inevitable change.

LOOKING BACK

For most of the past fifty years, UK universities have operated in a surprisingly stable and protected competitive environment, notwithstanding perceptions to the contrary among many of those working in the sector.

In the first place, the competition for market share and resources has been relatively mild. UK universities have benefited from long-term growth in student numbers, albeit sporadic, and in total income, albeit from increasingly diverse sources (USR/HESA annual statistics; Shattock, 1996; Williams, 1992). The student market in particular has grown strongly since the end of the 2nd World War, and head-to-head competition between providers has consequently been muted. In 1946 there were 16 recognised universities in the United Kingdom educating 28 000 full-time students. By 1996 there were 115 universities plus 61 other higher education institutions (HEIs) educating more than 1.6 million students, including about half a million part-time students (Shattock, 1996; Dearing, 1997). During those fifty years, the full-time student population alone grew by a factor of forty: the total number of universities grew by a factor of less than ten. Room enough for everyone.

Secondly, UK universities have enjoyed the support and protection of the state, as well as suffering the related burden of state regulation. The state has, of course, guarded the power to award degrees and controlled the use of titles, which has created significant barriers to entry (and exit, as it happens). More subtly, but no less importantly, the state and its agencies have also constrained access to public funding both for institutions themselves and for students. Only defined activities and until recent years only designated institutions have been eligible for public support. Governments have also allowed universities a preferential (charitable) tax status and provided implicit financial guarantees in that failing institutions have not been allowed to go bankrupt, even though some have been forced to endure major

surgery. All of these factors have put potential for-profit competitors at a significant financial disadvantage.

Thirdly, the sector has at least until recently operated quite effectively as a kind of cartel, for example with respect to self-regulating quality control mechanisms, self-imposed constraints upon the promotion of and recruitment to undergraduate courses, the mutual recognition of credits and qualifications, and the maintenance of the principle, which most respect but few seem to believe, that the awards granted by all universities have equivalent educational value. Quite apart from the financial constraints imposed by the state, these factors have helped to ensure a very gentlemanly form of competition for students, and more-or-less eradicated price competition in the domestic market, with the obvious but not exclusive exception of the MBA.

Fourth, consumer power has been limited by the dominant position of the state as a purchaser of services, paying fees on behalf of the majority of undergraduates, and a fair proportion of postgraduates too. The role of the National Union of Students (NUS) as a representational body has further reinforced the trend towards corporatism rather than consumerism in higher education. In conjunction with the other factors identified above, this has created a market that has been heavily producer-led and fairly homogeneous. Most HEIs have been teaching similar things to similar students in similar ways. Leaving aside the Open University, product differentiation has not featured very strongly in the post-war development of UK higher education, at least with respect to the undergraduate curriculum. And although it might be argued that there has been greater differentiation at the postgraduate level, this is mainly because postgraduate courses have tended to reflect the interests of producers (academics) even more strongly than most undergraduate courses, not because they have been designed specifically to address consumer-led demand. For the most part, institutions have therefore tended to differentiate themselves mainly by reputation and location rather than content, delivery or service.

Finally, the high costs of capital investment and the extraordinary inflexibility of university cost-structures have tended to create further barriers to entry. In recent times, universities and other HEIs have been characterised by a substantial cadre of academic staff on contracts that have made the cost of teaching at best a semi-variable, and by the ownership of land and buildings, usually including an element of residential accommodation, required to create a traditional campus environment. Both of these factors have tended to deter commercial interest in higher education by creating an unusual labour market, requiring significant investment capital, and demanding relatively high levels of activity just in order to recover costs. Even in the special case of the Open University (OU) which has relatively few core academic staff and a limited physical estate, the barriers faced by potential new entrants have been high because the OU has been provided with

preferential access to state-funded broadcast facilities which have made it difficult for others to offer credible substitutes at comparable cost or quality.

In the context of Porter's model, the nature of competition among higher education providers in the United Kingdom since 1945 can thus be explained as a result of three key factors. First, high barriers to entry have been maintained by the state as a dominant purchaser, by the sector operating as a cartel, and by the underlying economics of the business as traditionally understood. Secondly, individual students have until recently exercised little power because most of them have been and have regarded themselves as being consumers without being customers (individual purchasers). Hence the power of higher education buyers has been limited, or at least transformed into another form of state power, which has reinforced the *status quo*. Finally, long-term growth in the student market, coupled with limited price competition, again reinforced by the influence of the state and the ability of the sector to operate as a cartel, have tended to ensure that the jockeying for position among UK universities has been restrained.

LOOKING FORWARD

The next few decades will be very different. Some of the protective monopolies maintained by the state are starting to weaken; the relationships between universities and their students are becoming more overtly commercial; the number and range of existing providers has already increased to the point where the higher education cartel is fragmenting; future growth in the student market seems likely to be strongest in new market segments that existing universities may be poorly positioned to address; and technological change is enabling new entrants to challenge the traditional economics of higher education provision and to offer substitute products via new distribution channels.

HEIs are already starting to operate in a more competitive and diverse environment. The Dearing compact which acknowledges the state only as one of three funding partners has reinforced the trend that is evident around the world, and not just in the United Kingdom, to reduce government subsidies for higher education, at least as a proportion of the total cost. Conversely, and just as importantly, it has accelerated the transfer of costs and therefore power to the consumers of higher education, including but not limited to the majority of UK undergraduate students. Students and other purchasers of the services provided by HEIs, including industry, commerce and the medical charities who fund a large part of the sector's research activity, are also more able than ever before to make informed choices about their purchasing decisions, supported by the results of teaching and research assessments, as well as a range of third-party buyer's guides. At the same time, educational theory in recent years has come to emphasise the importance of student-

centred learning rather than tutor-centred teaching, reinforcing the pressures for a customer-led approach to higher education.

Since the state will in future find it difficult to control those things for which it is not a monopoly purchaser, the likelihood is that existing control mechanisms will gradually weaken, even if individual HEIs experience this as more accountability for less of the business (Shattock, 1997). Conversely, market-based competition will increase, and competition on price will become more widespread. UK universities have long since lost their position as monopoly providers of higher education and (especially) research. The UK government may not yet be inclined to follow New Zealand in conferring the power to award degrees on any provider that can demonstrate competence irrespective of status, but it is certainly conceivable that some of the existing constraints will be relaxed. It is also possible that the concept of formal recognition will itself be undermined, at least in markets like computing and business education where global commercial forces might easily challenge or effectively ignore the presumed authority of the nation state.

Already the number of higher education providers and the range of higher education provision have increased significantly. The following figures illustrate the general point, despite being limited to the university sector as conventionally defined. In 1946 there were just 16 designated universities in the United Kingdom; the Robbins Report recorded 31 universities; by 1970 there were 45 including the OU (but excluding the polytechnics created in the 1960s); and by 1996 Dearing reported there to be 115 universities (including the ex-polytechnics) plus 61 other HEIs (Shattock, 1996; Robbins, 1963; Dearing, 1997). This of course involved a growing diversity of institutional histories and missions as well as an increase in the number of institutions.

The percentage of school-leavers participating in higher education has also increased dramatically over this period. Although the Age Participation Rate (APR) is another limited and conventional measure, it has increased from less than 5% in the early 1960s to roughly 35% in England and more than 45% in Scotland today with almost one third of the Scottish figure reflecting higher education provision in Scottish Further Education (FE) Colleges (Dearing, 1997; SHEFC 1996).

To date, the overall impact of these changes has been to contain rather than exacerbate competition despite the increase in numbers and diversity because the growth in demand has outstripped the growth in supply. But several complicating factors are now at work.

In the first place, UK universities are no longer sufficiently small in number or sufficiently alike in their outlook for the post-war cartel to operate as efficiently as once it did, nor even for the Committee of Vice-Chancellors and Principals (CVCP) and the Committee of Scottish Higher Education Principals (COSHEP) to represent them all effectively, least of all on the most contentious issues. Hence the emer-

gence of sub-sectoral alliances such as the Russell Group and the Coalition of Modern Universities, and supra-national groupings such as Universitas 21. The sector is also becoming blurred at the boundaries. A significant minority of higher education courses are already being taught in Scottish FE Colleges, and it seems entirely likely that this backward integration of higher education provision into the FE sector and even possibly into the schools, as well as the forward integration of higher education into industry and commerce, through company degrees and so on, will become more widespread in the near future.

At the same time, the student market, though probably still growing in total, is becoming increasingly heterogeneous, with most of the future growth likely to be in non-traditional market segments. Demographic projections suggest that the United Kingdom, like most of Western Europe, can expect its population to remain broadly static but become markedly older over the next few decades, and participation in higher education is already expected to grow at least in part through widening access. To use the business jargon, future growth will require market extension, and not just a better penetration of existing markets.

The global market too is developing in ways that will change the nature of competition for international students. The world market for higher education has increased by *c.* 60% over the past 20 years, from 51 million in 1980 to 82 million in 1995, and the World Bank expects there to be as many as 150 m million people around the world seeking higher education by 2025 (UNESCO, 1998; West, 1998). The international market has also become increasingly global as students, like the rest of the population, have become more mobile. The number of students studying abroad has trebled in the past 25 years and doubled in the past decade, and there are currently about 1.5 million foreign students resident in the top 50 host countries. But this masks some important details. The existing market in international students studying abroad is heavily skewed: three-quarters of the 1.5 million students referred to above are concentrated in the top ten host countries (UNESCO, 1998). Furthermore, the majority of the new demand predicted by the World Bank is likely to be concentrated in countries where personal incomes are relatively low. Since new technology (discussed below) will further loosen the constraints traditionally imposed by time and space, it seems reasonable to assume that HEIs in the developed world will start to move away from their current reliance on middle-class foreigners studying on-campus. Internationally as domestically, future growth will be strongest in new market segments that will favour more specialised providers, and demand more customised provision.

However, it is the increased mobility of information rather than people which poses the biggest threat to the *status quo*. For even if new technologies are only enablers of change in higher education, they are nevertheless opening up the market for substitute products, driving down traditional barriers to entry, and permitting new entrants to re-engineer the business and exploit new distribution channels.

Historically, the cost of investment in fixed assets, the labour-intensive modes of production and delivery, and the overheads associated with the provision of non-educational services have all helped to deter potential new competitors. But new developments in information technology and telecommunications, affordable access to digital television and a growing recognition of the need to support the development of knowledge-based economies have between them made it not only possible but desirable, and perhaps necessary, to re-invent higher education by stripping out traditional costs associated with the ownership of land and buildings, the employment of permanent academic staff and/or the provision of bundled support services.

Until recently, developments in this area have mostly been limited to a plethora of government-sponsored initiatives intended to promote computer-assisted teaching within the existing sector, and the development of the (government-sponsored) Open University, which other institutions have to date been happy to allow their own academic staff to support. But the possibility of producing and delivering educational materials in ways which permit entry costs as well as operating costs to be scaled down, have set new competitive forces in motion around the world, and especially in the United States.

A new wave of competitors is now emerging. These competitors are difficult to categorise in any generally agreed way, but can usefully be sub-divided into three broad clusters: mega universities, corporate universities, and for-profit organisations.

The mega universities, of which the United Kingdom's Open University is by no means the largest, are in truth no longer very new. They are nevertheless assuming a new importance as the nature of demand for higher education, and the technology of educational production and consumption change. Put simply, these organisations offer a new means of delivering mass higher education, and especially state sponsored higher education at significantly reduced unit costs (Daniels, 1996).

A range of rather dis-similar organisations, here labelled corporate universities, are also assuming a new importance. Despite the nervous jokes about "mickey mouse qualifications" awarded by the Disney University, or "qualifications to go" from MacDonalds, existing universities find it harder to dismiss the emergence of corporate universities associated with companies such as Microsoft, Motorola, Ford and British Aerospace. Indeed, established HEIs have been keen to work in partnership with the more prestigious companies, and the companies themselves have been keen to make these connections.

Serious for-profit providers have also started to emerge in the USA, with uncertain consequences for the rest of the English-speaking world. The Apollo Group is the biggest player in this market, and is proving that higher education can be a very profitable business, given the right conditions. Apollo is the parent company of the University of Phoenix which already has more than 60 000 registered higher educa-

tion students, mostly pursuing courses in business and technology, including computing, by distance learning. More recently, a new variant has also emerged: the Western Governors University. This is not a university in the traditional sense at all. It employs no teaching staff and develops no courses of its own. However, like the University for Industry (UFI) project in Britain, it aims to be a major broker of higher education provision, initially but not exclusively for the western states of the USA, providing on-line access to material provided by partner organisations which include not only traditional universities (including now the US division of the Open University) but publishers such as International Thomson, and a range of blue-chip corporations including IBM, Microsoft, Sun, AT&T and KPMG (Marchese, 1998).

In the context of Porter's model, the combined impact of all the changes outlined above – weaker monopolies, stronger consumers, changing markets, novel products and new competitors – will almost certainly be to transform the competitive environment. These developments will enhance the power of individual buyers and change the traditional nexus of relations between the students, the state and the universities; exacerbate the competition among existing providers for market share and related resources; reduce significantly the barriers to entry into the higher education market; and significantly increase the threat from new entrants offering substitute products. Between them, these forces threaten to change the competitive dynamics of the higher education business to such an extent that those of us already engaged in it may soon be forced to re-consider the very nature of the business in which we are engaged, to re-define the sector within which we understand ourselves to be competing, and to re-examine the ways in which we position our organisations.

REASONS TO BE FEARFUL

There are many reasons for existing HEIs to worry as they contemplate the future. UK universities face more intense competition, taking new forms in new markets, with new entrants that seem likely to focus very effectively on high-growth, high-yield market segments, especially in computing and business education, potentially leaving traditional providers to serve what might be regarded from a business perspective as the least attractive market segments.

Consumer-led competition will increasingly temper the producer-led assumptions that have shaped the development of post-war higher education in the United Kingdom, and this will pose major challenges for established universities whose past success has been rooted in an entirely different tradition.

New wave competitors will be especially well-placed to re-engineer the business and operate at low unit costs by removing traditional economic constraints, and especially if price competition increases, this will pose difficult questions for traditional providers. Existing HEIs tend to have their assets tied-up in land and

buildings. New wave competitors will not. Apart from the obvious cost advantages, this means that established universities will find it far more difficult than many of their potential rivals to finance major investments. In financial terms, UK universities are generally solvent without being very liquid.

New entrants to the market will also look to purchase rather than develop educational content, and be well-placed to cream the work of the academic community sustained and employed by their rivals. Star academics will be tempted, not least by the money, to freelance, and the protection of course-related intellectual property rights (IPR) looks set to become another big issue for existing universities in the very near future.

Product differentiation will assume a new importance too, and this will add to the pressures driving existing providers onto the back foot. In future, providers will have to differentiate their products and services on more than location and content. Indeed, the core components of initial undergraduate study are likely to become less proprietary than they are now as universities strive both to demonstrate consistency with minimum (threshold) standards and further reduce the unit cost of first year teaching. New entrants are likely to compete on a mixture of utility, flexibility, customer-service and price, and few established universities will feel able to tackle this threat head-on.

More worrying still for existing universities, if virtual provision emerges as a key weapon in the coming battle for high-growth, high-yield markets, as many universities appear by their present actions to assume, then strong global brands and new distribution channels will inevitably influence future developments. The more virtual the products or services become, and the more global the competition for market share, the more difficult it will be for existing universities successfully to differentiate their own on-line provision.

REASONS TO BE CHEERFUL

Nevertheless, established universities will survive, and many will thrive in the new environment.

Technological developments will doubtless bring enormous change, but new forms of educational production, delivery and consumption will not simply displace the old. The promise or threat, whichever it is, of the virtual university may yet prove to be a revolution akin to the arrival of the paperless office. Quality online education will neither be cheap nor easy to produce or deliver in many disciplines, though it obviously is in some, and many students, even or perhaps especially when they are regarded as consumers of higher education, will continue to want access to libraries and arguments with other people to help support their education. Higher education will remain a social as well as an educational experience.

Although the nature of demand for higher education will change as it grows, it also seems likely that the overall rate of growth in the global market will be sufficient in future to sustain an enormous number of complementary (*sic*) providers. Demographic trends will certainly shift the balance of demand for higher education both globally and domestically, but exactly how and to what extent remains uncertain. The global market will not be any more uniformly international than it is now, and the emergence of English as the dominant second-language around the world seems likely to put UK providers in a relatively strong competitive position.

Indeed, some parts of the university sector will barely notice the winds of change because there will still be a thriving market for full-time campus-based study, even though price will emerge explicitly as a moderating factor (the current legal framework in the United Kingdom being unsustainable in the longer term), and fewer universities in total will be willing or able to regard this form of provision as constituting their core business.

The threat from new entrants remains a real one, of course, but diversification (taking new products into new markets) is a high-risk business strategy, even though it can bring big rewards. The apparent distinction between established and new-wave providers will inevitably blur over time, and mixed model organisations are likely to predominate. Partnerships will play an important part in addressing the diverse and changing educational needs of the knowledge economies, as the new wave competitors are starting to demonstrate, and partnership-based competition will inevitably happen through and with, and not just beyond and around existing universities.

The dangers of a big shake out will only be high where large numbers of higher education providers all try to compete for the same narrow range of students with similar courses delivered in similar ways at similar prices. Greater differentiation will consequently be the key to a sustainable future, and this is already widely understood among existing UK universities, although it seems likely that the need for institutions to become more distinctive and therefore more selective will in future manifest itself as another focus of tension between managerial logic and academic aspirations.

Finally, there are two other important factors to consider, both of them positive, but each of them paradoxically so.

The first paradox is that despite the changing role of the state in the funding and regulation of higher education, governments around the world increasingly look at higher education as a form of strategic investment in the knowledge economy. This makes it less likely than ever that the state will consider these investments as sunk costs which might safely be disregarded in making future decisions. UK universities will receive more political attention as well as less financial support

from the state: an uncomfortable combination perhaps, but one that universities should learn to regard as an opportunity as well as a threat.

The second paradox is that while new technologies are radically weakening the constraints of time and place, so too the extent to which traditional universities are rooted in fixed geographical locations is emerging as a renewed source of competitive advantage. The world economy is becoming "globally local" as well as "locally global", and established universities have unique opportunities to establish (or re-establish) themselves as key partners in regional plans for economic, social and cultural rejuvenation and development (HEQE, 1998).

AFTERWORD

It would be inappropriate to pretend that there are any clear conclusions to be drawn from all of this. The future will no doubt be far more complicated and surprising than any of us can imagine just now. But the spectre of fundamental change in the higher education business (and it is a business these days, whatever else it may be) is surely not a fanciful one.

The parallels with our high-street banks may yet prove to be instructive. For there only thirty years ago was a traditional, predictable and very British business, which did not appear to think of itself fully as a business since the bank was an "institution" and not merely an organisation, that was at least partly defined by its physical location and operated on terms that suited the service providers rather more than the customers. Yet the combined impact of telecommunications, consumerism, global competition, substitute products and new entrants to the market have between them transformed the nature of the business and redefined the sector itself.

Not that our institutions of higher education have anything to learn from the business world, of course.

References

DANIELS, J. (1996),
The Mega Universities, Open University.

DEARING (1997),
The National Committee of Enquiry: Higher Education in the Learning Society, HMSO.

GODDARD, J. *et al.* (1998),
"Higher Education Quality and Employability Report", *Universities and Economic Development*, June.

MARCHESE, T. (1998),
"Not-so-distant competitors: How new providers are re-making the post-secondary marketplace", AAHE *Bulletin*, May.

PORTER, M.E. (1980),
Competitive Strategy, Free Press.

PRAHALAD, C.K. and HAMEL, G. (1994),
Competing for the Future, HBS Press.

ROBBINS (1963),
Report of the Committee on Higher Education, HMSO Cmnd 2154.

SHATTOCK, M. (1997),
"The managerial implications of the new priorities", *Higher Education Management*, Vol. 9, No. 2, July, pp. 27-34.

SHATTOCK, M. (ed.) (1996),
The Creation of a University System, Blackwell, Oxford.

Scottish Higher Education Funding Council (SHEFC)
Circular letter 57/96.

UNESCO (1998),
World Statistical Outlook on Higher Education: 1980-1995.

USR/HESA,
Universities Statistical Record and the Higher Education Statistics Agency annual statistical reports.

WEST (1998),
The West Committee Review of Higher Education and Policy, App.11.

WILLIAMS, G. (1992),
Changing Patterns of Finance in Higher Education, OU Press.

Academic Responses to the UK Foresight Programme*

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ABSTRACT

This article explores how far government policies influence academic values and ways of working. It focuses on the UK *Foresight Programme as a catalyst of cultural change in research communities in England. On the basis of an empirical study, it analyses the responses to the programme of scientists and social scientists at different levels of the higher education and research system. It concludes that while there is some evidence of shifting attitudes towards industry and the exploitation of research, Foresight has not affected fundamental academic values and practices.*

THE POLICY THRUST

In 1993 the UK Conservative government produced a white paper, ambitious in both scope and title, *Realising Our Potential. A Strategy for Science, Engineering and Technology* (OST, 1993). The central issue it addressed was familiar: the need to exploit more effectively the potential of science and technology to contribute to wealth creation and quality of life, in the context of global challenges to national competitiveness and human welfare. Central to the government's strategy to meet this need was a new (for the UK) policy: Technology Foresight.

Technology Foresight would provide a conceptual framework and a process through which emerging key technologies and markets could be identified and priorities for the public funding of science determined. It would set in motion a "cultural change [of] better communication, interaction and mutual understanding between the scientific community, industry and government departments" (para. 1.18.2). The

* This article is based on Academic Responses to the UK Foresight Programme (1999) by Mary Henkel, Stephen Hanney, Maurice Kogan, Janet Vaux and Dagmar von Walden Laing. The full report is available from CEPPP, Brunel University, Uxbridge, Middlesex UBH 3PH, England (e-mail: mary.brightwell@brunel.ac.uk).

Office of Science and Technology (OST) took the policy forward. By the end of 1993 a Technology Foresight Steering Group had been established to oversee the Foresight programme and provide a framework in which 15 (later 16) sector panels comprising members from academia, business, finance and government would begin to implement it.

THE STUDY

There are already many studies of Foresight (*e.g.* Martin and Irvine, 1989; Martin, 1993, 1996; POST, 1997; Royal Academy of Engineering, 1998; Segal Quince Wicksteed, 1998; OST, 1997*c*). The study reported here, however, focused on the responses of academic scientists and social scientists to the Foresight programme, as it had developed by 1997-98. We explored how, and how far, academics at different levels of the higher education and research system perceived the Foresight policy; what patterns of response emerged, and how these might be explained. The main question was to what extent a process of change was discernible in academic values, agendas and modes of working in the UK research communities.

Key assumptions of the study were that academic responses were crucial to the success of the policy; that the programme might challenge existing research aims and values; and that academic aims, values and conceptions of research were a product of the interplay between individuals and key institutions, notably universities, disciplines and funding bodies. Knowledge of academic institutional responses would therefore be important for an understanding of the implications of Technology Foresight for individual academics. It might also reveal important differences between them.

The study did not set out to answer the question, "how well did the Foresight policy work?", although it is relevant to those concerned with such questions, and is in the tradition of policy impact studies. However, we and others have argued elsewhere that impact is not an entirely appropriate metaphor for the study of a substantial set of policies and their outcomes. It implies that those affected by policies are best understood as passive recipients and underestimates the potential of a range of actors in a policy sector to subvert or enhance the purposes of others, to create solutions of their own and to set in motion new interactions with different players.

Academics are more plausibly to be seen as an active population, with their own agendas, and with a strong normative commitment to autonomy and internal concepts of motivation. They are able to draw on well institutionalised, as well as individual, strategies to obtain the means to achieve their ends. Those interested in the effectiveness of policies might learn most by examining how actors such as these interpret the policies, how far they perceive them to be

consistent with their own values and goals and how far they can incorporate them into their own frames of reference or problem solving approaches.

THE FORESIGHT POLICY AND ACADEMIC VALUES

Foresight, as articulated by Martin and Irvine (1989), one of whom was a consultant to the government in the period leading up to the adoption of the policy, comprised a complex set of ideas and carried with it a number of controversial assumptions:

- While it must strike "a balance between top-down and bottom-up approaches" (Martin, 1993), Foresight requires a comprehensive approach, and strong strategic leadership from the top.
- Foresight must be distinguished from forecasting, the aim of which is to arrive at predictions which can be justified scientifically, on the assumption that "only one probable future exists and that this can be linked in a unilinear and deterministic way to the present and the past." (Martin and Irvine, 1989; Wills, 1972). Foresight, like the French idea, *la prospective* (Godet, 1986), assumes that there exist many possible futures but that collective analysis of trends, options and action may make it possible to influence which of them emerges.
- It is possible to shape the direction of research without impairing scientific creativity or the degree of innovation required to sustain scientific and economic competitiveness.
- Partnership between academic researchers, industry and government, through which the fit between science push and demand pull can be evaluated and strengthened, is central – for the selection of priorities for strategic research and generic technologies, for their development, and for the dissemination and exploitation of results (OST, 1993, paras. 2.26-2.29) (see also OST, 1995*a*).
- Strategic research is a key component of the programme.
- Largely linear and uni-directional assumptions about the relationship between fundamental, strategic and applied research and between science and technology are increasingly untenable. Such assumptions have, in fact, long been challenged in social studies of science (Ziman, 1984; Layton, 1977; Mulkay, 1977) (see also OECD, 1993; Brooks, 1994).
- As thinking about the foundations of the economy and of wealth creation change and the role of advanced knowledge and innovation become critical, the traditional boundaries between science and industry, the academy and the market begin to shift.

– Multi-disciplinary research is increasingly recognised as essential for bringing work on emerging technologies to fruition, and to advance knowledge in some scientific fields.

– Priorities must be set for research funding.

Some of these assumptions run counter to traditional beliefs among scientists.

An earlier piece of research carried out between 1994 and 1997 (Henkel, forthcoming) by some members of our team in a three country study of the impacts of higher education reforms on academic values and working practices had found little evidence that attitudes or modes of work had changed or that Foresight was influencing them. Respondents, particularly scientists, were overwhelmingly preoccupied by research funding problems. At the same time, they emphasised the importance of academic autonomy for sustaining motivation and the quality of research. Few spontaneously mentioned Foresight or saw it as significantly impinging upon them. Some were developing partnerships with industry, either under pressure from their institutions or on their own initiative, mainly to increase their research income. But they did so only within the terms of their own agenda. Attitudes to science policies to promote collaboration were mixed. There was support for the principle but uncertainty about how compatible were the expectations of the parties. Some felt that what industry most wanted from universities was a supply of well trained scientists and that their requirements for academic research were short term and tightly defined. Others believed that partnerships with industry cannot be generated easily and that industry should be expected to take more of the initiative. It was also felt that the conditions imposed upon recent research grant award schemes where success depended upon securing some industrial funding had led to a shift of evaluative criteria away from scientific merit, at a time of intense competition for research funding.

STUDY METHODS

The current study provided an opportunity to make a closer analysis of what appeared to be ambivalent attitudes and to see whether clearer patterns of response could be identified. Broadly, we were concerned with two kinds of pattern: those that might derive from or be linked with knowledge (disciplines or fields with different interests, methods of inquiry, organisation and networks) and those that might be linked with authority or power, for example age and individual and institutional status. Issues of authority and power threw up a further and fundamental question for our project. How far could the responses of those individuals and institutions with the authority of expertise or institutional power be seen to be changing the research environment or research culture in ways that might critically affect whole communities of academics, for example by changing funding opportunities or reward structures?

We took a case study approach to the core of the study since it enables complexities to be explored by focusing on a limited field of action. This made it possible to examine in some depth the responses of academics from varied but selected disciplines and fields.

We carried out case studies in research areas covered by two Foresight panels, Health and Life Sciences and Materials. The study was designed to enable us to look for patterns of difference and similarity between:

- The health and life sciences and materials policy arenas.
- Disciplines or clusters of disciplines: natural scientists, clinical scientists, social scientists, basic researchers and applied researchers.
- Universities.
- Funding bodies.
- Levels of academia.
- Academics with different degrees of association with the Foresight policy.

THE AIMS OF FORESIGHT AND ATTEMPTS TO IMPLEMENT IT

The main ideas contributory to Foresight have been in circulation over a period of time. Work on Foresight itself had been undertaken by the Science Policy Research Unit (SPRU) over a decade before the White Paper of 1993 (OST, 1993). While, therefore, Technology Foresight as a composite policy was a new organising concept for science policy in the United Kingdom, key governmental bodies had already been working with some of the ideas espoused in it.

We noted some tension between the two main Foresight aims. The idea of promoting dialogue and collaboration between the scientific community, industry and government suggested a dynamic conception of agenda development. However, setting priorities for research funding through matching strong areas of strategic science in the United Kingdom with potential market opportunities implied a more decisive shaping of research agendas (reinforced by the Steering Group's mapping of generic priorities). It also created some uncertainty about the implications of the policy for the future of basic or "blue skies" research in academic communities.

Not surprisingly, there were differences of interpretation of the aims within those communities, and over time the emphasis between them seemed to change, as the process of implementation got underway, and new actors, including a new government, entered the policy arena. In particular, there appeared to be some movement away from the selectivist function of Foresight. The setting of priorities was widely interpreted, notably amongst academics nearer to the centres of policy making, as a broad shaping exercise, and unlikely to exclude significant areas of research or to undermine the strength of basic research. Government policy makers focused increasingly strongly on the promotion of collaborative activity between

business and academia. With the advent of the new government in 1997, the overarching political agenda for Foresight moved towards the solution of major social and environmental problems, in which both the creation of wealth and quality of life were implicated and the differences between them blurred.

However, the extent to which such shifts were evident to academics varied. Those who had been intensively engaged in prioritisation exercises, particularly on the panels, were likely to emphasise the importance of priority-setting as a function of Foresight. Those nearer the academic base interpreted this as likely to lead to greater external direction.

The Steering Group, the Foresight panels and OST made substantial attempts to engender involvement in the initiative and to promote network building, notably through a Delphi exercise, workshops and later some joint working parties between panels. However, the overall impact of these events relative to the input of effort was low. More important was the response of the academic institutions with the power to shape the research environment.

THE RESPONSE TO FORESIGHT OF KEY INSTITUTIONS

Research and funding councils

The research and funding councils provide the key policy and funding frameworks for UK academics. The extent to which they saw it as their role to incorporate Foresight concepts into their policies was therefore of critical importance to departments, research centres and individual researchers in universities.

The research councils had been more involved through membership of key groups in the development of the Foresight policy than the funding councils. The Steering Group made it clear that they saw "scope for a sustained readjustment of [research funding] priorities over a number of years" (OST, 1995), while the two panels with which this study is concerned recommended that the research councils should provide additional support for priorities identified by them.

All the research councils in their early responses to Foresight tended to take two lines: that they were already substantially addressing research areas identified as priorities in Foresight; and that they were also now specifically responding to the Foresight initiative, although there was a general perception that one of them had been more active and specific than the others.

Unlike the research councils, the Higher Education Funding Councils were not initially represented on the Steering Group. They differed in their subsequent support for Foresight.

In contrast to its Scottish and Welsh counterparts, the Higher Education Funding Council for England (HEFCE) chose not to introduce a specific funding initiative

to encourage Foresight in universities. Probably the most important mechanism through which the funding councils could have supported Foresight was the research assessment exercise (RAE), on the results of which funding council allocations to universities for research were based. It had become probably the single most important influence on universities' research policies by the early 1990s.

In spite of funding council guidance to the research assessment panels, however, fewer than one third mentioned response to Foresight in their guidance to departments about factors that should be referred to in their submissions. And while there was a clear difference of approach between the panels relevant to Materials and those relevant to Health and Life Sciences, the view from the universities in our study was that Foresight had had a negligible influence on the RAE exercise in 1996.

HEFCE then consulted the universities on how far a policy factor should be used in calculating research funding between subject areas, but decided that it would be wrong to apply the findings of the Foresight panels to the funding methodology in a formulaic way. It had made clear to institutions that it expected them to take full account of Foresight in their allocations of funds, but it supported the principle of university autonomy in this matter.

The learned societies

By 1998 Foresight had generated a limited response from learned societies and, with the exception of one society, few members were aware of what their response had been. However, major disciplinary bodies in the physical and the biological sciences, together with the Royal Society, had seen it as a significant development in science policy, of which they must take account and seek to influence. Social science organisations, on the other hand, for the most part regarded it as not relevant to them.

There were a few examples of societies which had actively sought to take Foresight aims forward and to encourage a new momentum in the relationships between disciplines and between industry and academia.

Universities

Universities had been strengthening their capacities to work with industries and other external bodies on research and technology transfer over the two decades before Foresight. The need to generate research income from sources other than the dual support system had become increasingly pressing.

The relationship between academic reputation and research income tightened and the RAE was the most powerful lever of change in this development. It took account of research income as well as research output but discriminated between

the sources of research income in favour of the research councils and a few prestigious charities. The funding and research councils' perceived response to Foresight was thus crucial to the development of universities' attitudes to Foresight. Universities in England were clear that RAE criteria had been little influenced by Foresight. The reactions of the research councils had been more difficult to read, but most institutions saw them as still equivocal. Foresight had not had a decisive impact on them, although the Engineering and Physical Sciences Research Board (EPSRC) and the Economic and Social Science Research Board (ESSRC) were seen as having been more active respondents to the policy.

Since neither the Funding nor the Research Councils could be regarded as straightforward mediators of the Foresight programme, universities were making their own decisions about its importance. Although, according to HEFCE, many universities referred to it in their strategic planning documents, most had not made an institutional response to Foresight, but left it to their faculties or departments to do so. The extent to which they had, nevertheless, sought to create structures and policies that influenced the choices made in their basic units varied.

For the most part, Foresight had not been a stimulus to change in university research strategies. Rather it had been part of a complex of external factors affecting institutions' policies and structures.

However, while there is little evidence anywhere that Foresight had been a direct cause of change in policies or in research agendas, three of the civic universities in the study had seen it as significant in the research policy environment. Foresight seemed to have been an important means by which they worked to develop regional connections and prosperity in the name of mutual interests.

THE RESPONSE OF THE ACADEMICS

What were the responses of academics in the basic units? The study focused on researchers in three research areas, Materials, Ageing and Health Informatics. It considered how aware they were of Foresight and the impacts it had made on their aims, values, agendas, networks and modes of working We aimed to identify differences and similarities between the disciplines under study.

FORESIGHT AND ACADEMIC NORMS

Most materials scientists showed themselves to be in sympathy with the Foresight aims of promoting the relationships between academics and industry. Several argued that the intellectual challenge of addressing problems posed by industry was greater than that of research generated outside the academic-industry relationship. Others, however, thought that too much emphasis could be placed on collaboration with industry which should not become a mandatory criterion for funding.

The picture in health informatics and ageing was more complicated. Computer scientists also saw working with industry as embedded in their practice. Biological scientists divided between basic researchers who relied wholly or mainly on research council and charitable funding and those with a greater variety of funding sources. For many life scientists and clinical researchers there was a strong tradition of relationships with the pharmaceutical industry, itself strongly research-based. For clinically oriented researchers in ageing and in health informatics and for social science researchers working in ageing or similar fields, the National Health Service was also a major sponsor and/ or user of their research.

The majority of researchers considered that wealth creation was more important to the policy makers than the improvement of quality of life, but respondents who saw wealth creation as irrelevant to them or even incompatible with their own values were more likely to be health or life scientists. There was support among some health and life scientists for a clear division of labour between industry and academia, rather than closer working partnerships. They believed that the universities' role was to ensure that the United Kingdom had a highly trained workforce, to sustain the research base and to make the breakthroughs on which industries could draw; industries should pay for these things through taxes. The idea that academics were part of a culture in which entrepreneurial values and abilities were in low esteem was expressed by several life scientists, although not all of these associated themselves with academic culture in this respect.

However, as indicated in other recent studies (Howells *et al.*, 1998), attitudes were changing towards the commercialisation of research, as universities were encouraging academics to address intellectual property rights and making it easier for them to form their own companies for the development and exploitation of their research. A few academics had moved strongly in this direction and others finding it difficult to get their ideas taken up in industry now saw it as an option. That might in the longer term have some influence on the balance between research and development in individual agendas.

For researchers in materials and in the biological sciences intellectual property rights were a high profile issue, although it appeared that the driving force behind this was the institution rather than the individual. These studies played a major part in the negotiation of work with industries and was the source of conflicts of values and interests for academics, as the importance of collaboration with industry grew. Most materials scientists saw potential problems in publishing research that was commercially sensitive for companies, although it appeared that senior academics found they were usually manageable. The issues were largely those of delay and this could be limited. More serious problems were mentioned by a few people, where commercial confidentiality meant that full account of findings could not be published, so restricting the outlets for publication and limiting the free flow of communication between researchers in the field.

A related problem was identified by some biological scientists who noted that collaboration in departments with several competing firms could mean that communication within those departments was also affected, for example in graduate research seminars where students might be sponsored by different companies.

Those respondents who saw Foresight as an instrument for stronger external steerage of research were mostly opposed to it on those grounds. They stressed the importance of academic autonomy, internal motivation and drive for creative research. Those who saw Foresight as a threat to these values tended to be life scientists and clinical researchers but these views were also expressed by scientists working in materials-related research.

Although a minority of those who commented on such issues welcomed the idea of a more systematic approach to exploiting basic as well as applied science, others considered that a focus on exploitation or practical outcomes must mean giving less value nationally to basic science. There were fears about Foresight on this score amongst the materials scientists as well as amongst the health and life scientists, although they were probably more widespread amongst the latter. Interviewees from all fields stressed that it was vital that applied research continued to be able to draw on new basic science.

FORESIGHT AND ACADEMIC NETWORKS: ACADEMIC-INDUSTRY RELATIONSHIPS

The impact of Foresight on academic practices and the nature of their networks is not easily determined. Foresight was designed to promote more productive relationships between academics and industry. As we have seen, during the 1980s and 1990s universities were also trying to encourage academic staff to make stronger connections with industry and to generate more income from research. At the same time, the research needs of some key industries, such as the pharmaceutical industry, were changing along with their perceptions of how to get those needs met. Some of these changes were attributable to changes in science. In the field of pharmaceuticals, advances in molecular sciences meant that companies were increasingly looking to university-based scientists for new compounds that had become more and more difficult to find. The task of identifying appropriate targets for their drugs had been made massively more complex by the advances in genetic science. However, the potential for exploiting basic science to pinpoint such targets was now substantial.

Existing relationships between academia and industry predominantly reflected different forms of exchange. At one end of a continuum, they might be largely instrumental exchanges, in which researchers tested materials or clinicians carried out clinical trials of drugs for companies in exchange for money that could then be spent on various forms of research support. Researchers tried to minimise such forms of relationship as being of limited intellectual value. An alternative form of exchange

was one in which researchers might carry out similar forms of work but in doing so get access to material or data or extended time that enabled them to address problems of interest to themselves. Or academic clinicians might seek opportunities to evaluate devices, equipment or drugs. Exchanges might be more speculative, in which university-based researchers took new basic knowledge or theories to firms, with a view to interesting them in technology transfer or product development. Alternatively firms might fund individual scientists or groups over a period of time to undertake basic research in a field of interest to them, in exchange for privileged access to the knowledge that emerged.

Such exchanges might come nearer to forms of partnership if work on product development were joint.

Researchers might be involved in institutional initiatives to facilitate access by firms to the university or department or exchange of ideas between academia and business or to develop forms of relationship that were effectively joint programmes of knowledge development. Funding, usually by major companies, of chairs, equipment or buildings might facilitate direct access to leading edge scientists in the university by industry and joint development of research agendas over protracted periods of time.

Foresight policies were to promote partnerships that might support medium and long term exploitation of research with a view to securing a lead in key market areas and improving quality of life. This might create a new culture of academic-industry interaction across a far wider spectrum of researchers and companies.

The study highlighted instances of direct impacts of Foresight initiatives in expanding relationships. Examples include: the generation of new forms of leverage for investment and new connections across academic departments and institutions as well as new interactions between company- and university-based clinical research; a multi-disciplinary research centre co-operating with a major British company in which the outcomes were planned to be of use to the company, while at the same time producing advances in the modelling of materials processing; the development of a bio-sciences incubator in one of our sample universities. There were some highly successful basic researchers in the biological sciences, who were substantially supported by industry, either as a result of negotiations at the university level or of the development of their own contacts but these were not directly attributable to Foresight. Some of those active in collaborations with industry, however, were critical that Foresight policies had not helped to resolve the more serious problems encountered, particularly in the process of technology transfer.

PROMOTING INTER AND MULTI-DISCIPLINARY RESEARCH

Inter-disciplinary research was one of a number of forms of collaborative research advocated in the Foresight initiative. These also included inter-institutional

collaboration. Researchers who saw themselves as interdisciplinary were comparatively strongly represented in this study. Materials was widely characterised as a multi-disciplinary or as an inter-disciplinary field and this was particularly true of biomaterials. Health informatics was perceived as requiring collaboration between technologists and social scientists, as well as drawing on basic sciences. Ageing was a research domain, and while it was dependent on highly specialised basic research in, for example, a range of biological sciences, most of those most committed to it were strongly inter-disciplinary in their approach, even if their own work was grounded in highly specialised basic science.

How far was Foresight perceived by academic researchers to be strengthening inter-disciplinarity, enlarging the opportunities for it and facilitating the finding of solutions to its notorious difficulties?

We found that for participants in our study, inter-disciplinarity was not strongly associated with Foresight, in the way that academic-industry relationships certainly were. While the funding programmes most closely associated with it could be said to have supported collaborative approaches of all kinds to research, Foresight was not generally seen as having broken down the barriers to inter-disciplinarity in the research council structure. The strong leads coming from some universities to encourage inter-disciplinarity and inter-departmental collaborations were not perceived as having been triggered by Foresight, even if they were thought to be in tune with its aims.

WAS FORESIGHT SHIFTING ACADEMIC AGENDAS?

This issue can be addressed in individual and in collective terms. In the case of individuals, both the scope for and the imperative towards change in academic agendas depended partly upon individual expertise and the nature of the field.

Possibilities for shifting the substantive focus of research were most obvious for researchers in computer science, information studies and some social scientists. However, most physical, biological and clinical scientists believed the scope for individuals to make significant intellectual shifts was limited, given the effort required to master an area to the point where research could be undertaken competitively. A policy that aimed to provide incentives for researchers to move into new areas would need to assure them that funding for those areas was relatively secure and also that the review system would find room for newcomers. The judgements of peer evaluators were felt increasingly to rely on the existing track records of grant applicants and not necessarily influenced by Foresight criteria. In that case the effective policies of funding bodies might be quite confusing.

Foresight agendas were, however, having an impact on the language or frames in which academics applied for research funding. Most people, at least in materials science, felt they must see that their research proposals fitted with Foresight

priorities and orientation to applicability. Beyond this, while applied researchers were used to taking into account external expectations of their work, even if that did not constitute the whole of their research agenda, a few academics who saw themselves as pure researchers now felt that they were required to construe relevance or potential exploitation in their work. Doubts were expressed, however, about the value of this shift. It might foster an atmosphere, according to a clinician, "where you never get started because you cannot answer the questions in advance". This shift was, moreover, not necessarily ascribed to Foresight. There was a wider set of influences at work.

Biomaterials was cited as a fast moving field, where developments were likely to come from those working at the edge of various disciplines and across disciplinary boundaries. A few individual scientists in the study were looking at the potential for making contributions to the field on the basis of their existing expertise or were already involved, as individuals or as members of the Interdisciplinary Research Centre in this field.

Shifting the academic agenda was more often discussed in terms of future possibilities. Foresight might gradually reshape collective disciplinary research agendas, by its influence on funding possibilities. However, some research fields such as dementia and other aspects of ageing were now attracting highly talented people because of their intellectual excitement. Foresight was seen as one of a number of initiatives encouraging this trend.

As yet, few academics in areas identified as priorities by the two panels in our study considered that they had significantly benefited from enlarged funding opportunities. Academics in the field of ageing were well aware that it had a high profile in the Foresight initiative. The MRC decision to establish a national centre for the study of ageing was not made until after the end of the study and, at the time of our fieldwork, there was a sense that at least as yet, the research councils' development of programmes in ageing had been somewhat uncoordinated.

The Foresight initiatives in health informatics were also only just getting off the ground and were not perceived as shifting agendas.

Within materials, people in materials processing and in biomaterials were aware of some shift in resources and in industrial interest, although as the majority of biomaterials specialists in our study were in the Interdisciplinary Research Centre, and therefore not able to apply for research grants from public bodies, they had not themselves benefited from greater public support in this area.

FORESIGHT AND YOUNG RESEARCHERS

In materials studies there were mixed views about Foresight's implications for younger researchers. Involvement could be useful for those who wanted to get into industry but that might be secured in other ways. Foresight might also be more

prescriptive for them than for well established academics. But it could make them aware that their research was of some clear benefit as well as academically interesting.

In ageing studies whilst it was thought important that young academics embraced the idea that collaboration with industry was important and rewarding it was equally important that they develop their research interests within the university framework beyond their student years. Yet changes in attitudes to industrial collaboration were noticeable; young scientists were aware of what had to be done and how: writing business plans, marketing strategies, etc. This had various implications. Industrialists were brought into graduate programmes to talk about intellectual property, about publishing agreements and about confidentiality. One academic suggested that this was one of the things that had changed for the better. The financial problems facing young researchers were brought up by a number of interviewees. Highly trained people could get disillusioned and leave.

CONFLICTS WITH OTHER POLICIES

As we have seen, the Steering Group was keen that Funding Councils should support Foresight through their funding formulae and allocations of capital funds. But the reaction from institutions and academics was generally negative. We have also quoted evidence to the effect that it had comparatively low priority within the HEFCs' research assessment exercise. Whilst offering guidance to panels to take university departments' responses to Foresight into account, they were content to leave them to reach their own conclusions. This meant that the RAE judgements continued to be based on the traditional evaluative criteria of research excellence.

The pre-eminence of RAE and its lack of connection with Foresight were a major factor in making for distance between academics and Foresight. University level respondents were most likely to feel that the main way in which Foresight could exercise an influence on them would be through the Research Councils' response or the RAE criteria. Universities saw neither as having decisively shifted towards Foresight thinking. Indeed the values underlying the two policies were often seen as in conflict.

As we have seen, a second factor was concern that Foresight might seem to imply a degree of direction over individual academics which academics believed to be a source of tension with Foresight.

REFLECTION ON OUR MAIN THEMES

Our evaluation took place at a time when Foresight had been able to clarify itself as a national and governmental policy, but over a time scale relatively short in terms of academic responses and changes in academic culture. The initiative was evidently gaining momentum but could not compete successfully for attention with

the other policies, particularly the research assessment exercises and resource allocations. On these both funding and reputations depended.

Thus Foresight must depend on its persuasive power and in this respect it cannot be deemed to have been successful so far. Not only the distraction of other policies but also some apprehension of prescription and channelling inhibited its academic endorsement. Nor were its merits advanced consistently by the funding and research councils who do, indeed, possess the means of influence. Whilst researchers in some fields were aware that Foresight had shifted the research funding environment, it had not as yet been an agent of cultural change.

Analysts of higher education policies and their impacts would expect there to be differences in perception of and attitude to national policies at different levels of the system. Governmental hopes for Foresight were shared by many of the academics recruited to its bodies and by a few champions in a range of academic institutions. But there was something of a consensual scepticism which increased as one travelled through the levels of the Funding and Research Councils, the universities and into the working academic levels.

There were, however, discernible disciplinary differences in approach. These did not, however, seem to derive from differences in epistemologies and academic values so much as from the accidents of organisation – proximity to a single research council that evinced a positive approach for most researchers in materials, for example, or historic connections with and a corresponding continuing belief in connection between academia and industry. Social scientists did demonstrate some differences of value and knowledge perspectives from those of natural scientists. Some social scientists emphasised the critical role they should play in societies' management of technological developments, as well as the potential of social science to elucidate and facilitate those developments. They were also less willing than other groups to accept accommodation between the goals of wealth development and enhancing quality of life. They were more ready to point out the different ideologies underlying conceptions of quality of life that cannot easily be reconciled.

For the most part academic values – the belief in the importance of intellectual independence from the here and now – seemed to remain firm, and these also were made to justify some of the more sceptical attitudes towards Foresight. However, we have noted that younger researchers were willing to accommodate the possibility of being both academically motivated and responding to economic needs, as were some of the established researchers whom we encountered. It is not easy, however, to isolate Foresight as a factor among others in causing this shift in attitudes.

Established conceptions and criteria of knowledge remained secure and, indeed, there was no suggestion that Foresight attempted to influence them.

A CASE STUDY OF CHANGE

The study has thrown up issues about how changes happen, *e.g.* whether it is necessary to "capture individual hearts and minds" if institutional priorities or structures are to change. It is manifest from our study that individual attitudes to an initiative such as Foresight will depend on its relationship to other imperatives that dominate academic life. Whilst disciplinary orientation instils the academic values of the Republic of Science, within the competitive environment engendered by current policies, resources and reputations increasingly affect actions. Thus the actions and attitudes of funding and research councils and the extent to which Foresight will bring tangible benefits are dominant concerns. On these counts academics have not detected fundamental change. The shifts that are taking place are the outcomes of longer term pressures, notably those compelling universities and academics to seek new forms of funding. Foresight is seen largely as reinforcing those pressures and more rarely as giving them new direction or impetus.

References

BROOKS, H. (1994),
"The relationship between science and technology", *Research Policy*, 23, pp. 477-486.

GODET, M. (1986),
"Introduction to La Prospective", *Futures*, Vol. 18, pp. 134-157.

HENKEL, M. (forthcoming),
Academic Identities and Policy Change, Jessica Kingsley Publishers, London.

HOWELLS, J., NEDEVA, M. and GEORGHIOU, L. (1998),
Industry-Academic Links in the United Kingdom, PREST, Manchester and HEFCE, Bristol.

LAYTON, E. (1977),
"Conditions of Technological Development" in I. Spiegel-Rösing and D. de Solla Price, *Science, Technology and Society*: A *Cross-Disciplinary Perspective*, Sage Publications, London and Beverly Hills.

MARTIN, B. (1993),
Research Foresight and the Exploitation of the Science Base, Report commissioned by the Office of Science and Technology, HMSO, London.

MARTIN, B. (1996),
"Technology Foresight: capturing the benefits from science-related technologies", *Research Evaluation*, Vol. 6, No. 2 (August).

MARTIN, B. and IRVINE, J. (1989),
Research Foresight: *Priority Setting in Science*, Pinter Publishers, London.

MULKAY, M. (1977),
"Sociology of the Scientific Research Community", in I. Spiegel Rosing and D. de Solla Price, *Science, Technology and Society*: *a Cross-Disciplinary Perspective*, Sage Publications and Beverly Hills, London.

OECD (1993),
Educational Research and Development, Trends, Issues and Challenges, Paris.

OST (1993) (White Paper)
Realising our Potential – A Strategy for Science, Engineering and Technology, Command 2250, HMSO, London.

OST (1995*a*),
Report from the Steering Group of the Technology Foresight Programme, Summary Document, DTI, London.

OST (1995*b*),
Report of the Steering Group of the Technology Foresight Programme, London, DTI.

OST (1997*c*),
Report on the Whitehall Audit of the Foresight Programme, London, DTI.

POST (1997),
Science Shaping the Future: Technology Foresight and its Impacts, London, POST.

ROYAL ACADEMY OF ENGINEERING (1998),
Preliminary Assessment of the Impact of Foresight: Report of the Working Group, London, Royal Academy of Engineering.

SEGAL, QUINCE and PARTNERS (1985),
The Cambridge Phenomenon : The Growth of High Technology Industry in a University Town, Segal, Quince and Partners, Cambridge.

WILLS, G. (1972),
Technological Forecasting, Penguin, Harmondsworth.

ZIMAN, J. (1984),
An introduction to Science Studies, University Press, Cambridge.

Economics Research in France: Tentative Conclusions Based on EconLit Database

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ABSTRACT

Despite France's influential role in and significant impact on the development of economic thought in the past, it seems that no recent publication has assembled an up-to-date inventory of its internationally best known contemporary economists. The purpose of this study, therefore, is to produce an exploratory survey for 1998 of the scientific contributions of representative economics research groups in France based on the EconLit bibliographic database. Three indicators, one relating to overall visibility, one to net production and one to international presence, have been used to evaluate and compare two major categories of representative groups: the "French specificity" category [including Conseil National des Universités (CNU) and agrégation groups] and another made up of more "traditional" groups (including editorial committees of journals and the chairmen and management committee of a national association of economists). The results indicate a clear dichotomy between the two. Moreover, the poor performance of the first of the above categories measured by all three indicators raises serious questions about the way the public university system operates in France and the future implications thereof in the light of the globalisation of the production and dissemination of scientific knowledge.

INTRODUCTION

For several decades many studies on the evaluation of original scientific contributions, including those of Bairam (1994), Colander (1989), Conroy *et al.* (1995), Laband and Piette (1994), and Nederhof and Wijk (1999), have served to classify individuals, institutions and journals. These studies, covering several disciplines and published mainly in English-language journals, have not been so popular in France, which is regrettable for several reasons. For a start, the lack of this kind of information is a drawback for young researchers, both those seeking benchmarks and others more concerned with assuming important administrative tasks not

directly connected with their research work. Secondly, all the comparative studies carried out on either an individual or an institutional basis that are published and discussed abroad almost invariably ignore the existence of the French-speaking world. Hence this exploratory survey, which some may consider inopportune, aims to fill this gap, while in addition yielding some surprising and encouraging results, which are useful for all French economists.

The purpose of our survey is to draw some tentative conclusions regarding the scientific contributions of representative economic research groups in France using the EconLit bibliographic database. The advantage of this approach is that it will enable us to evaluate the position of these representative groups in relation to each other, using three simple criteria to measure scientific activity and its dissemination among the international community.

Our overall visibility indicator, which measures the number of entries in EconLit, shows how frequently a researcher's name appears in the database. The degree of contact maintained in this way with other researchers is a precondition of any claim to notoriety. This is a purely quantitative dimension, which totals the number of times a name appears either directly, indirectly or implicitly. Direct appearances concern statements signed by the author; indirect appearances are taken to be the analyses, commentaries or citations concerning his work made by others; while implicit overall visibility is the case where the person's name is used as a reference to illustrate a model, a concept or other theoretical development. Regardless of the wealth of contributions or achievements which a particular scientist may lay claim to, if he does not tangibly exist in the eyes of other researchers using the database, either through his statements, or by the attention others might give him, then he may well never appear in any later citations, and therefore never be able to build up his notoriety, regardless of how justified his claims may be.

Net production is the second indicator we need to measure the truly scientific dimension of a researcher. It adopts the rules applied in the specialised literature by considering only articles selected by the anonymous arbitration procedure and is calculated in proportion to the author's effective contribution. Excluded from consideration are: books, collective works, book reviews, theses, discussion records, special issues, proceedings of meetings, commentaries, replies, corrections, regular features, chronicles, official speeches, commissioned articles, presentations, editorial notes, etc. This rather strict approach, which is debatable rather than disputable, may well not meet with approval in France, whereas it is the scientific standard recognised throughout top English-language literature. The underlying theory is that the progress of research should be measured by the addition to universal knowledge made by original contributions, and that only an appreciation of works chosen by the impartial judgement of peers (whence the anonymity rule) can best ensure the highest possible quality in the dissemination of new knowledge. The publication

system that best fulfils these conditions is that of scientific journals, with reading committees that apply the anonymous arbitration procedure for unsolicited articles. It is in this light that Gans and Shepherd (1994) explain how particular articles come to be rejected, including some submitted by Nobel Prize winners. Beyond that basic consideration, Laband (1990) reminds us of the clear difference from the point of view of impact, in terms of citations and hence of potential notoriety, between journal articles and books. According to him, the latter, even published by the best English-speaking publishers, make up only a very small fraction of the citation potential of a single article and for a distinctly more limited lifetime.

International presence is the last of our three indicators, particularly suited to a community of non-English-speaking researchers. It replaces, in a way, the very demanding classifications of English-language surveys established on the basis of very restricted lists of the best journals in the world, which boil down in fact to exclusively English-language journals for any selected list of less than twenty. In rejecting this criterion in our own survey, and instead extending our interpretation of international presence to some 600 foreign journals, we have avoided a process of excessively drastic elimination, which few individuals, and especially representative French groups, would have survived. The only special condition which we have applied, for purely practical reasons, is that we have tried to overcome the language barrier by selecting, for net production, only articles published in English in English-language or multilingual journals, with a view to guaranteeing "language visibility". This is because, to the extent that a researcher wishes to be recognised for his original work and to be appreciated by as many colleagues as possible worldwide, he will be able to enhance his citation potential by publishing, say, an article in K*yklos* in English, rather than in French or German.

To the extent that notoriety constitutes the ultimate objective for a researcher or a group of scientists, and that it represents a sufficient criterion of successful research, why concentrate only on the three indicators described above and not go on to consider this other aspect? In fact, appreciating the degree of notoriety achieved by an individual's entire work implies a qualitative dimension, which may be controversial in a number of ways. Of all the possible methods of measurement, the number of citations reckoned on the basis of the publications given in the *Social Science Citation Index* is undoubtedly the method most used in available studies.[1] Since the work in hand is essentially exploratory and aimed at drawing only preliminary conclusions on a new and sensitive subject, it seemed more constructive to look at France's real visibility abroad through some of its most representative groups, to highlight the contrasts between different traditional research structures and to give our own statistical interpretation, as our contribution to a debate initiated a few years ago by Laffont (1995), in the knowledge that scientific evaluation by citation is already part of our next stage.

CHOICE OF REPRESENTATIVE GROUPS

Considering what is nationally and internationally at stake in scientific research, with the growing globalisation of knowledge production and the proliferation of new information and communication technologies, both researchers and the public authorities need to take stock of where they stand and how well they are doing in relation to the rest of the world.[2] An exploratory survey must therefore be undertaken as a means of identifying shortcomings, advantages and possibilities as soon as possible, and if necessary taking appropriate action. We shall start by examining the functioning of two university systems, which apply different principles in order effectively to achieve the objectives of scientific notoriety in the general interest of society as a whole.

In the American system, where the university is considered as the real engine of scientific knowledge production, an academic's tenure represents a long-term investment for the institution, as explained by Goodwin and Sauer (1994) and by McPherson and Schapiro (1999), and will only be granted against the assurance of high quality, confirmed productivity, backed up by a portfolio of publications built up over a trial period of several years. The so-called "up or out" rule (*i.e.* promotion or exclusion) ensures that the system's inherent principle is preserved, since the investment in human capital is decided solely in the light of objectives achieved over a medium-term probationary period, with the certainty that no working teacher/researcher is exempt.

In France, higher education and research are divided between the private sector and the public sector, the latter being subject to specific rules regarding the recruitment and subsequent careers of its teachers/researchers. Lecturers are taken on for a probationary period, lasting at most two years, after which full appointment will normally follow automatically in the light of an appreciation of the teaching activities and the pedagogic or administrative duties performed by the probationer during this period at the institution. Thus young academics are recruited on the basis of their research portfolio, made up of their thesis, any related publications and any other works produced. They will not, however, be reassessed formally prior to their final appointment. The C*onseil* N*ational des* U*niversités* (CNU) becomes involved in the recruitment and advancement process and, in certain cases, the promotion of candidates to a professorship, but not in their initial appointment. This means that their whole career could take place without any obligation whatever to produce new publications, since a steady improvement in their financial situation, in addition to job security, will be guaranteed by their step-by-step progression up the professional scale.

In the case of the *agrégation* competitive examination, which opens the door to the higher ranks of professorship, the matter of appointment is even more straightforward, since the probationary period is done away with altogether. Recruitment in

that case is immediate and definitive, as admission is based on past research work and on lessons in which candidates can display their level of knowledge[3] as well as their teaching abilities. The system was conceived in the 19th century as a way of selecting the most promising young teachers for secondary school and was later applied to higher education,[4] the logic behind the system being at present to take account of candidates' abilities both as teachers and researchers. However, considering that poor teaching performance during examination hearings is not penalised in any way and that already established teachers do not have to undergo that type of assessment test, the system no longer fully guarantees a high quality of teaching. On the other hand, the recognition of a candidate's very high quality of research in the initial stages of the competitive exam may be lost in the case where a promising researcher is unlucky in the subsequent lessons draw.[5] This means that the examination inherently no longer ensures the primacy of research[6] and may even detract from it as a result of the random choice of lesson subjects.

The evaluation of economics research in France must then distinguish between "French specificity" (made up of CNU and *agrégation* groups[7]), and other selective groups measured by more "traditional" notoriety criteria, in line with common evaluation practices applied in most other countries, and compare the results.

French specificity: CNU and higher education agrégation examination

Lecturers (maîtres de conférences) *and* CNU *professors*

The CNU is made up of lecturers (*maîtres de conférences*, MCF) and professors (PR) elected by their peers or appointed by the public authorities. Their numbers are not the same and vary from one period to another. Only the last three bureaux, of 1988, 1992 and 1995, have been included, with a distinction being drawn between lecturers and professors, though none between appointees and elected staff, although such a distinction would have been possible.

Presidents and members of the Jury *and candidates who have passed the agrégation examination in higher education*

It may be remembered, as we said earlier, that the specific method of recruitment and career development in France are such that selected candidates do not have to undergo a probation period to confirm their research productivity. The outcome depends in fact solely on the sovereign judgement of the *agrégation* examination Jury.[8] It would therefore be useful initially to measure the three indicators for candidates who passed the examination, with a view to assessing their overall visibility, their net production and their international presence at the start of their careers. In order to follow the fair assessment principle applied in the French civil service, that is, whereby an assessment should be "based on the judgement of

peers holding a rank at least equal to or higher than that of the candidate", the analysis will also be applied to the members of each of these Juries and, *a fortiori, to their Presidents*.

The 30 candidates who passed the last three examinations of 1994, 1996 and 1998 will be considered, together with the seven members of each Jury. A fourth series of 16 candidates who passed the second examination of 1998 will then be added with that Jury. For the Jury presidents (first and second examinations), the series has been extended to the seven examinations covering the period from 1989 to 1998.

Other selective groups: the traditional references of scientific notoriety

Typically national references

In a more "traditional" approach, the selected reference groups concern the editorial committees of two major non-specialised journals and one national association of economists. The choice of the two journals, the *Revue d'économie politique* and the *Revue économique*, is of course arbitrary and therefore open to criticism, especially since other journals would have been just as suitable. Considering the exploratory nature of this survey, however, it is quite conceivable that in the near future the selection may be extended to a broader panel of either non-specialised or specialised journals, whether French, French-language or bilingual. The composition of the French-speaking membership of the journal editorial committees of 1998 has been kept, as for the members of the management committee of the *Association Française de Science Économique* (AFSE). The 11 former AFSE presidents have been assessed on their contributions on the date they took office, which meant starting the series no further back than 1978, considering that the EconLit database began only in 1969. Insofar as membership of the *Conseil d'Analyse Économique* (CAE) implies considerable influence over the economic affairs of the State, this Council also deserved detailed analysis on the basis of its official 1997 composition. Only the 30 French members of the CAE were selected for specific assessment.

French-speakers on the international scene

For the general public, supreme notoriety for economists goes with the award of the Nobel Prize. In fact, as Mirucki (1986) has noted, the progression towards this often belated recognition may well be "heralded" by earlier appointments or nominations. The two most important promotions are nomination to the Fellows of the Econometrics Society, the first step towards high-level international recognition, which may be followed a few years later in the case of the chosen few by the title of Foreign Honorary Member of the American Economic Association. In this survey, two reference groups have been evaluated: firstly the 27 French-speakers admitted

as Fellows of the Econometrics Society since 1973, and secondly, all the Foreign Honorary Members of the American Economic Association received since 1975 out of the previous group, plus the only French Nobel Prize for Economics.[9] The six Honorary Members will therefore make up the majority of the EconLit 100 + group described in the following paragraph.

In fact, departing from the approach we have followed so far, which consists in appreciating the position held by certain formal groups among the most representative of economic research in France, it seemed worth making up a new informal group, called "EconLit 100 +", based on the first proposed evaluation criterion. By identifying French-speakers with an overall visibility higher than a hundred in the EconLit reference database, we can then estimate the highest levels achieved by French-speaking researchers. Among the ten members[10] of the EconLit 100 + group, we find eight members of the Fellows of the Econometrics Society, who include all six of the above-mentioned Foreign Honorary Members of the American Economic Association.

RESULTS AND IMPLICATIONS: TENTATIVE CONCLUSIONS

An unmistakable dichotomy emerges from Table 1. Out of the fourteen groups considered, the averages of the first half related to "French specificity" (CNU and *agrégation*) lie distinctly below those of the other selective groups of French-speaking researchers. For the latter, the overall visibility indicator is ten times higher; the net production indicator is roughly six times higher, while the international presence indicator, the most significant of the three, is 14 times greater than for the CNU + *agrégation* groups.

The international impact of articles concerns only a fifth of publications in the first part (19%) but almost half in the second (47%). The classifications of the three indicators confirm without a single exception the clear dichotomy between the two parts.

A more detailed analysis, using a series of graphs[11] shows the profiles of each group, though it should be borne in mind that results obtained only from regression tests will supply information on the "positioning" of variables and not on the distribution of publication frequencies.

CNU + agrégation groups: "French specificity"

CNU *lecturers*

The data are related to the last three groups made up in 1988, 1992 and 1995. They show that half the lecturers have no entries in EconLit, and therefore no corresponding net production, while for the 44 members as a whole, only five have published in foreign journals. Thanks to the good performance of the leading bureau member in 1992, who has since been promoted to the position of Director

Table 1. **Overall visibility, net production and international presence of representative economic research groups in France (averages)***

OV	R1	Representative groups of French researchers	Year	NP	R2	IP	R3	IP %
0.9		CNU: MCF	1988	0.9		0.0		0
2.1		CNU: MCF	1992	1.3		0.3		23
0.8		CNU: MCF	1995	0.6		0.1		17
1.6	13	Averages for CNU (MCF) (Lecturers)	88-95	1.1	13	0.2	13	18
4.1		CNU: PR	1988	3.0		0.4		13
13.3		CNU: PR	1992	5.4		0.8		15
9.1		CNU: PR	1995	4.5		0.6		13
9.4	9	Averages for CNU (PR) (Professors)	88-95	4.5	9	0.6	10	13
10.3		*Agrégation* Jury	1994	5.7		0.7		12
10.0		*Agrégation* Jury	1996	4.0		1.3		33
8.4		*Agrégation* Jury	1998	5.7		1.0		18
9.6	8	Averages for *agrégation* Jury: First exam	94-98	5.1	8	1.0	9	19
5.0	10	*Agrégation* Jury: Second exam	1998	3.6	11	1.2	8	33
4.9	11	*Agrégation* Jury Presidents	89-98	3.8	10	0.4	12	11
3.0		Passed *agrégation*	1994	1.9		0.4		19
3.1		Passed *agrégation*	1996	1.7		0.5		31
3.2		Passed *agrégation*	1998	2.0		0.6		30
3.1	12	Averages for Passed *agrégation*: First exam	94-98	1.9	12	0.5	11	27
1.0	14	Passed *agrégation*: Second exam	1998	1.0	14	0.2	13	20
4.8		Averages for CNU + *agrégation* groups		2.6		0.5		19
19.4	7	*Revue Économique*	1998	10.3	6	1.3	7	12
44.1	3	*Revue d' Économie Politique*	1998	13.4	4	5.3	3	39
27.4	6	AFSE Directing Committee	1998	9.4	7	3.6	5	38
27.6	5	AFSE Presidents	78-98	14.1	3	3.1	6	22
37.1	4	*Conseil d'analyse économique* (French-speakers)	1997	12.2	5	5.2	4	42
77.1	2	Fellows of the Econometrics Society (French-speakers)	73-98	22.8	2	15.9	2	70
168.4	1	EconLit 100 + (French-speakers)	1998	39.3	1	23.9	1	61
47.8		Averages for selective groups of French researchers		15.3		7.2		47

* Abbreviated column headings.

OV Overall visibility indicator: number of times the name is found (with rating R1).

NP Net production indicator: restricted to number of journal articles subject to anonymous arbitration procedure (excluding books, collective works, book reviews, theses, discussion records, special issues, minutes of meetings, commentaries, replies, corrections, regular features, chronicles, official speeches, commissioned articles, presentations, editorial notes, etc.) and adjusted for effective contribution share in the case of multiple-author articles (with rating R2).

IP International presence indicator: net production, restricted to articles published in English in English-language or multilingual journals, showing language visibility abroad (with rating R3).

IP% International presence coefficient: international impact of net production (IP/NP ratio).

Source: EconLit 1969-3/1998, database of the American Economic Association.

of Research at the CNRS and appointed member of the Fellows of the Econometrics Society, overall visibility and net production improved substantially in 1992 but remained generally flat in 1995.

CNU *professors*

The data on professors show a distinct improvement compared with previous groups, while maintaining the same characteristics, *i.e.* definite progress in 1992 and similar profiles for 1992 and 1995. This time, only three members in 1988 and two in 1995 have no entries in EconLit, while a little less than half the members in each of the series has published abroad. Overall visibility is six times greater among professors than among lecturers, but the ratio is only three times more for the international presence indicator. In practical terms, only one-third of the professors would have published the equivalent of a whole article in a foreign journal by the date they were elected or appointed to the CNU.

Members of the agrégation *examination jury*

The analysis of Jury members covers the three first examinations of 1994, 1996 and 1998, to which has been added the second examination of 1998. Apart from the very first observations, overall visibility is below that of the CNU professors. With a very uneven distribution, the 1996 Jury includes the two best performances as well as the two poorest, *i.e.* two members with no entry at all in EconLit. For net production, the four series come closer at each observation level, although the performance on the whole remains rather modest. It is quite surprising to note that at least three Jury members of the First examination, in each series, had no international presence. Generally speaking, the Second examination Jury behaves in a similar way to the other three, despite poorer net production to start with.

Agrégation *examination jury presidents*

The three indicators may be evaluated from the data concerning presidents of each first and second *agrégation* examination over the last ten years. Overall visibility and net production are generally very close, while international presence is non-existent for most of them. In fact, despite their dominant hierarchical position,[12] five out of seven have never published an article in a foreign scientific journal covered by EconLit[13] throughout their careers.

Candidates passing the agrégation *examination*

The 30 successful candidates at each first *agrégation* examination in 1994, 1996 and 1998 are very similar as far as overall visibility is concerned, with between three and six absent from EconLit. This indicator is much better than that of the second

1998 examination, for which nearly half are absent. There is a fall-off in net production, but less so than in the case of Jury members. International presence is fairly similar to that of CNU professors, bearing in mind that some are starting their careers while the others have already reached a mature stage. Among the successful candidates, only one-third in 1994, half in 1996 and a little more than a quarter in 1998 and one-fifth in the second 1998 examination have published in scientific journals abroad. Despite the prestige attached to the ranking of successful candidates, only one of the four candidates who came first in each of the examinations had succeeded in publishing a single article abroad, and then only on a joint basis, by the date of the examination.

Other selective groups: the traditional references of scientific notoriety

For the purposes of the analysis, a distinction was drawn between two groups: national references, *i.e.* the two major non-specialised journals plus the *Association Française de Science Économique* (AFSE), and secondly the performance of French-speakers among the international community, *i.e.* members of the Fellows of the Econometrics Society and Foreign Honorary Members of the American Economic Association, the latter all appearing in EconLit 100 +. For the purpose of comparing with the second group, the analysis also includes members of the *Conseil d'analyse économique*, reflecting a political choice at top government level, and Jury presidents of the *agrégation* examination, who, in the spirit of "French specificity", officially represent the top crust of university research in economics.

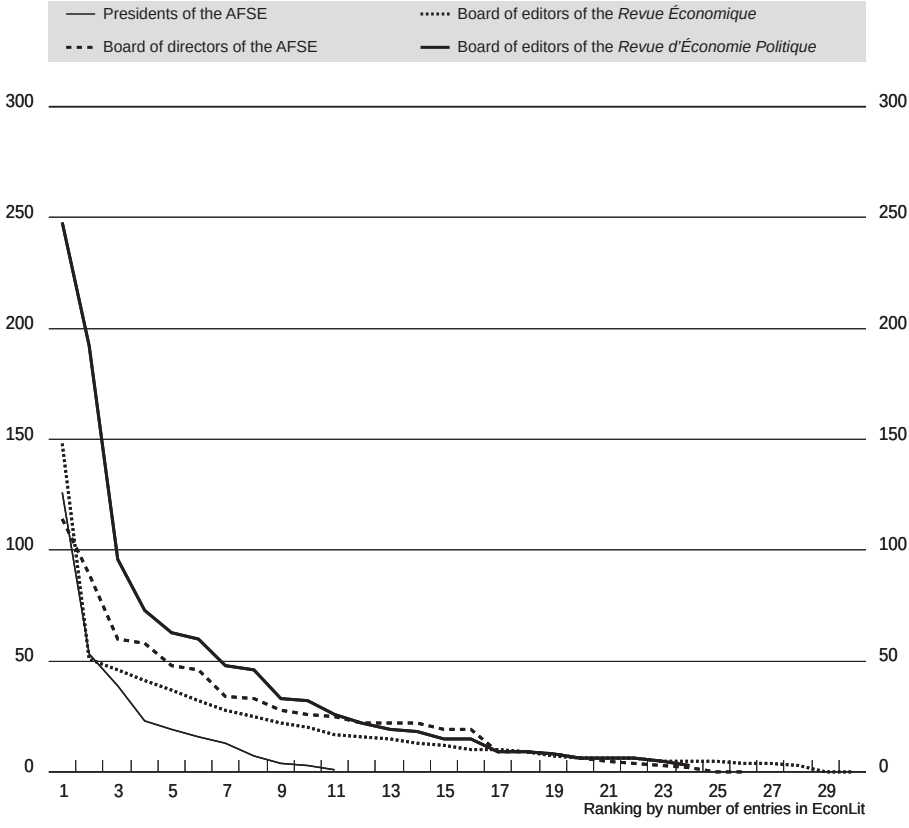
National selective groups

In Figure 1, overall visibility for the four selective typically national reference groups shows distinctly higher averages than in all the previous cases, judging by the very first observations, and despite two absences in EconLit for two of the series. It should be pointed out that some researchers as a result of the notoriety gained may have appeared in more series than one, which may have increased the averages. Thus, contrary to the figures given in Table 1, the difference of profile between the editorial committees of the two journals, to a great extent, is relatively less apparent. Apart from the first three observations, the lesser performance of the AFSE presidents may come as a surprise. Net production brings the two journals even closer together, both of these being caught up by the members of the AFSE management committee. Where international presence is concerned, we find a significant number of absences: about a third as many for the AFSE management committee as for the *Revue d'Économie Politique*, and over half of the *Revue Économique*.

Selective groups of French-speakers in the International arena

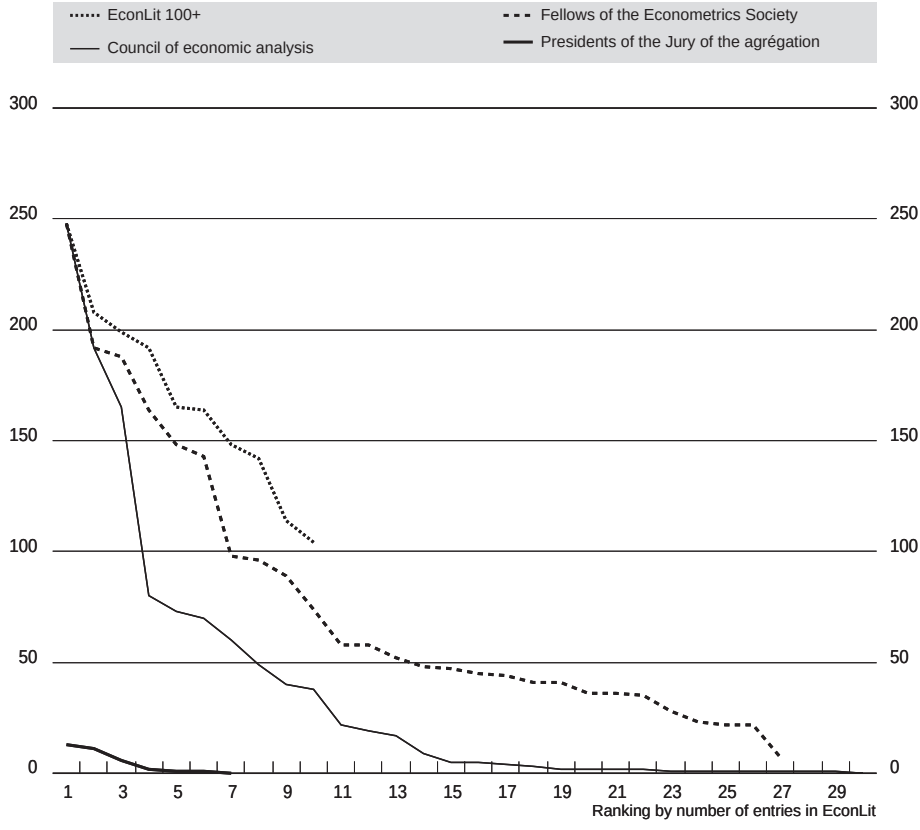
In the second category of selective French-speaking groups, Figure 2, compared with Figure 1, shows the highest number of EconLit entries observed so far.

Figure 1. **Global visibility of presidents and directors of the AFSE, and editors of selected journals**



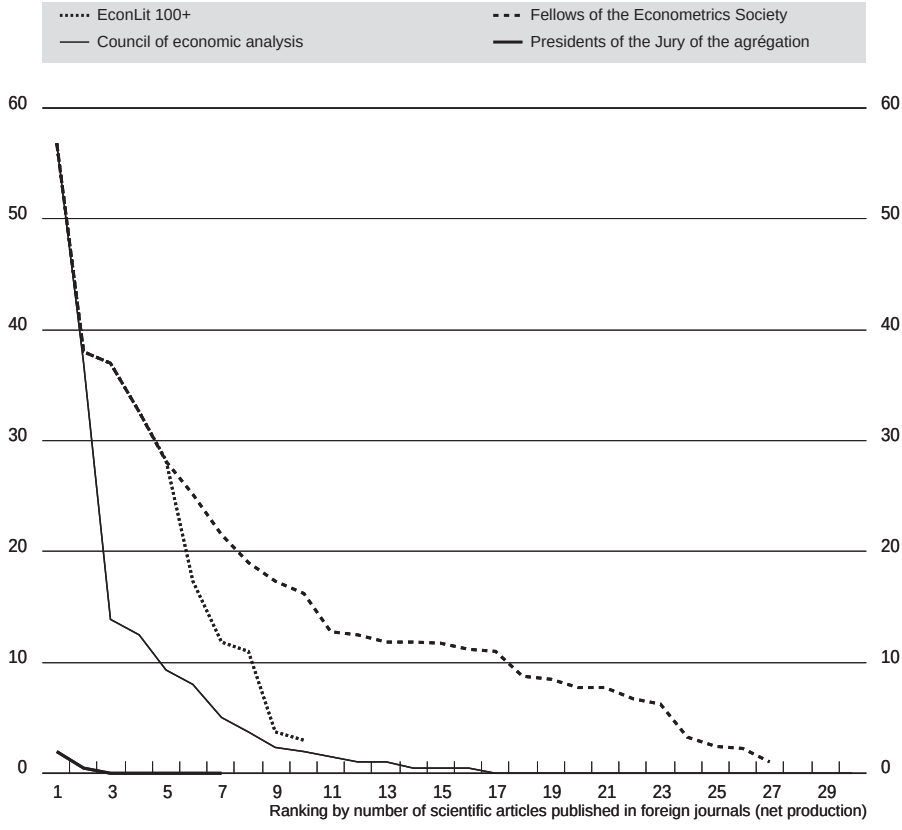
Some double and even triple appearances among the series, especially the upper half of the first ten observations, would imply that only about 80% out of the total of 74 representations can be taken as the real number of different researchers identified in Figure 2. One quarter of the CAE members and one *agrégation* Jury president have no entry in EconLit. The distinct contrast between Jury presidents and the other three groups sheds a very revealing light on the position held by the top level of "French specificity" within the circle of French-speaking researchers when it comes to their presence in an international showcase such as the EconLit database. Net production roughly follows the same profiles as before, with for the EconLit 100 + group a declining tendency for the second half.

Figure 2. **Global visibility of selective groups of francophones**



A new ranking appears in Figure 3, reflecting the international presence of French-speakers. Once again, it is worth sounding a word of caution against any primary interpretation of the averages given in Table 1. At the top come the first five observations, related to researchers of the EconLit 100 + group and to the group of the Fellows of the Econometric Society (these are duplicates), the first three being at the same time Foreign Honorary Members of the American Economic Association. The second rank is held by the rest of the members of the Fellows of the Econometrics Society, followed by the other part of the EconLit 100 + group, ahead of a good top half of CAE members. In terms of international presence, the contrast observed in Figure 3 between *agrégation* Jury presidents and the other three groups is quite striking and not a little surprising.

Figure 3. **International presence of selective groups of francophones**



TENTATIVE CONCLUSION

This exploratory analysis carried out with the help of the EconLit bibliographical database constitutes a mere overview of descriptive statistics. It can be performed by any researcher using or having access to a recent version of this database available in the form of a CD-ROM. This means that potentially several thousand economists can lay their hands on the necessary data, a process which is bound to become easier still in the future, since EconLit may also be accessed on the Internet. In addition, comparative analyses with other countries or language groups can now

be made concerning the groups of researchers applying the traditional standards of notoriety, included in the second part of Table 1.

The purpose of this study was to check whether the criteria for evaluating research in France were the same as those applied in the international scientific community at large or might be even partially related. The results in effect show an undeniable dichotomy between the two categories of groups. First we have the circle of public higher education, with its "French specificity" embodied in its recruitment and career advancement rules, a set of procedures and practices governed by the members of the CNU and those of the *agrégation* Jury, with the backing of the public authorities. In the light of information published on other countries, the figures obtained are disappointing and somewhat alarming.

This pessimistic view disappears rapidly if we examine the second category of the more "traditional" groups, made up mainly, as in most of the industrialised countries, on the basis of performance and the degree of notoriety acquired according to the rules of competitive publication. This category includes a number of academics and reflects a fairly decentralised geographical distribution. The best performances come from groups which have already obtained recognition abroad, *i.e.* the French-speaking members of the Fellows of the Econometrics Society and the EconLit 100 + group, most of the latter being also Foreign Honorary Members of the American Economic Association. This means that a great many of these researchers make a quite commendable contribution to France's presence on the international scene, going against any preconceived ideas regarding the domination of English-speaking economists or the impermeability of their journals to European work.

Admission to the very select group of Foreign Honorary Members of the American Economic Association is considered as a very promising step forward towards the waiting room for potential Nobel Prize laureates, considering that all non-American recipients of the prize[14] first went through the stage of being admitted Honorary Members. Hence it is encouraging to note that, in the various classifications drawn up in another study prepared by Mirucki (1999*b*), which concentrated specifically on the 52 Foreign Honorary Members of the American Economic Association (English-speakers who are either non-American or nationals of other countries in the world), the one who comes out top is always a Frenchman, a provincial academic,[15] the same person we find at the top of the lists in Figures 2 and 3 of selective French-speaking groups according to criteria of overall visibility or international presence.

Acknowledgement

The author wishes to thank more specifically Drucilla Ekwurzel and Jean-Jacques Laffont for their encouragement and their commentary.

Notes

1. See Davis and Papanek (1984), Downing and Stafford (1981), Laband (1990), Laband and Piette (1994), Liebowitz and Palmer (1984) and Wouters (1999).
2. Another survey prepared by Mirucki (1999*a*), equally exploratory, gave a preliminary picture of the state of economics research in Ukraine.
3. In the United States, this basic knowledge check, which takes place before a jury (PhD Comprehensive Exam), is a precondition of enrolment to the thesis preparation stage, which has the effect of automatically excluding from teaching, even during the probationary period, all candidates who are unable to meet the standard.
4. André Chervel (1993), H*istoire de l'agrégation*, Paris, Institut National de Recherches Pédagogiques, Editions Kimé.
5. In France, the *agrégation* competitive economics examination takes place in three stages: discussion of works produced to determine preliminary approval, presentation of a theoretical lesson to confirm approval and a final stage (one or two applied lessons) to establish a classification list of successful candidates.
6. In his report as President of the Jury of the 1995-1996 *agrégation* examination, Bourguinat (1997) goes even further: "… the Jury, breaking somewhat with tradition, having decided to reject certain candidates who, albeit of a fair standard, might not have succeeded in completing the examination process" (p. 132). Candidates eliminated in this way then have to accept a negative judgement on their research work and will not be given a chance to try to improve their performance in the lessons, in the event that they might sit the examination again, nor are they left the choice of voluntarily withdrawing their candidature between two tests to avoid the humiliation of a rejection, which is candidly admitted to be unfair but which nevertheless officially amounts to a clear-cut failure.
7. Several authors have tackled the issue of the characteristics of the French university system, such as Frey and Eichenberger (1993), Kolm (1988), Portes (1987), Ratier-Coutrot (1985) and Wolfelsperger, Pommerehne and Frey (1988).
8. It might be feasible to analyse the case of directors of theses or establishments according to their classification ranking or the degree of success achieved by their approved candidates.
9. Maurice Allais, winner of the Nobel Prize for Economics in 1988, did in fact go through the previous two appointments, his initial membership of the Fellows in 1949 being followed by his confirmation as Foreign Honorary Member of the American Economic Association in 1976.
10. Out of the ten members of the EconLit 100+ group, four are academics and three teach in the provinces. It is significant to note that all four completed part of their studies and/or career abroad.

11. For reasons of editorial convenience, only three of the 19 graphs produced have been included in this article, but readers who are interested may obtain the missing details from the author.
12. Traditionally, the Jury presidents of *agrégation* examinations are appointed from among the professors on the highest "rungs" of the ladder, in other words, at the highest grade and step of all teacher-researchers in each discipline, with an alternation between Paris and provincial universities. This hierarchical position is itself determined in the light of promotion decisions taken during the individuals' careers by the CNU. Hence the fact that the functional links between the CNU and the *agrégation* examination clearly illustrate the notion of "French specificity".
13. In recent years, the number of journals covered by EconLit has doubled, by now exceeding 600, the great majority of which are English-language publications.
14. Out of a total of 15 prize-winners, the only exception was Leonid Kantorovitch (USSR) in 1975.
15. Although the anonymity rule was applied to all groups, it is clear that merely by comparing different memberships, it is quite easy to identify the person in question, who is none other than Jean-Jacques Laffont, Professor at Toulouse I University.

References

BAIRAM, E.I. (1994),
"*Institutional affiliations of contributors to top economic journals*, 1985-1990", *Journal of Economic Literature*, Vol. 32, pp. 674-679.

BLANK, R.M. (1991),
"The effects of double-blind versus single-blind reviewing: experimental evidence", *American Economic Review*, Vol. 81, pp. 1041-1067.

BOURGUINAT, H. (1997),
"Rapport sur le concours d'agrégation de sciences économiques 1995-1996", *Revue d'Économie Politique*, Vol. 107, pp. 131-140.

CHERVEL, A. (1993),
Histoire de l'agrégation, Institut national de recherches pédagogiques, Éditions Kimé, Paris.

CHUNG, K.H., COX, R.A.K. and OKUNADE, A.A. (1993),
"Publishing behavior of individuals and most prolific authors in the economics literature", *Quarterly Journal of Business and Economics*, Vol. 32, pp. 32-42.

COLANDER, D. (1989),
"Research on the economics profession", *Journal of Economic Perspectives*, Vol. 3, pp. 137-148.

CONROY, M.E. *et al.* (1995),
"The productivity of economics departments in the US: Publications in the core journals", *Journal of Economic Literature*, Vol. 33, pp. 1966-1971.

DAVIS, P. and PAPANEK, G. (1984),
"Faculty rating of major economics departments by citations", *American Economic Review*, Vol. 74, pp. 225-229.

DELORME, C.D. and KAMERSCHEN, D.R. (1987),
"What '*Who's Who in Economics*' tells us about the economics profession", *Quarterly Review of Economics and Business*, Vol. 37, pp. 65-79.

DOWNING, P.B. and STAFFORD, E.A. (1981),
"Citations as an indicator of classic works and major contributors in social science", *Public Choice*, Vol. 37, pp. 219-230.

EHRENBERG, R.G. (coordinated by) (1997),
The American University: National Treasure or Endangered Species? Cornell University Press, Ithaca.

FREY, B.S. and EICHENBERGER, R. (1993),
"American and European economics and economists", *Journal of Economic Perspectives*, Vol. 7, p. 185-193.

GANS, J.S. and SHEPHERD, G.B. (1994),
"How are the mighty fallen: rejected classic articles by leading economists", *Journal of Economic Perspectives*, Vol. 8, pp. 165-179.

GOODWIN, T.H. and SAUER, R.D. (1995),
"Life cycle productivity in academic research: evidence from cumulative publication histories of academic economists", *Southern Economic Journal*, Vol. 61, pp. 728-743.

HAMERMESH, D.S. (1994),
"Facts and myths about refereeing", *Journal of Economic Perspectives*, Vol. 8, pp. 153-163.

HANSEN, W.L. (1991),
"The education and training of economics doctorates", *Journal of Economic Literature*, Vol. 29, pp. 1054-1087.

HICKS, D. (1999),
"The difficulty of achieving full coverage of international social science literature and the bibliometric consequences", *Scientometrics*, Vol. 44, pp. 193-217.

HODGSON, G.M. and ROTHMAN, H. (1999),
"The editors and authors of economics journals: a case of institutional oligopoly?", *Economic Journal*, Vol. 109, pp. 165-186.

KASPER, H. *et al.* (1991),
"The education of economists", *Journal of Economic Literature*, Vol. 29, pp. 1088-1109.

KOLM, S.C. (1988),
"Economics in Europe and the US.", *European Economic Review*, Vol. 32, pp. 207-212.

LABAND, D.N. (1990),
"Measuring the relative impact of economics book publishers and economics journals", *Journal of Economic Literature*, Vol. 28, pp. 655-660.

LABAND, D.N. and PIETTE, M.J. (1994),
"The relative impacts of economics journals: 1970-1990", *Journal of Economic Literature*, Vol. 30, pp. 640-666.

LAFFONT, J.J. (1995),
"Réflexions sur l'agrégation d'économie", *Revue d'Économie Politique*, Vol. 105, pp. 353-356.

LIEBOWITZ, S.J. and PALMER, J.P. (1984),
"Assessing the Relative Impacts of Economics Journals", *Journal of Economic Literature*, Vol. 22, pp. 77-88.

LOVELL, M.C. (1973),
"The Production of Economic Literature: An Interpretation", *Journal of Economic Literature*, Vol. 11, pp. 27-55.

McPHERSON, M.S. and SCHAPIRO, M.O. (1999),
"Tenure Issues in Higher Education", *Journal of Economic Perspectives*, Vol. 13, pp. 85-98.

MIRUCKI, J. (1986),
"Prix Nobel: les lauréats prennent de l'âge", Collection: Des idées, des événements, *Le Devoir*, 21 octobre 1986.

MIRUCKI, J. (1999*a*),
"A Visibility Analysis of the Scientific Production of Ukrainian Economists: 1969-94", *Journal of Socio-Economics*, Vol. 28, pp. 221-232.

MIRUCKI, J. (1999*b*),
"What does an American Economic Association Foreign Honorary Membership Nomination Really Imply?", working paper.

NEDERHOF, A.J. and WIJK, E. (1999),
"Profiling Institutes: Identifying High Research Performance and Social Relevance in the Social and Behavioral Sciences", *Scientometrics*, Vol. 44, pp. 487-506.

PORTES, R. (1987),
"Economics in Europe", *European Economic Review*, Vol. 31, pp. 1329-1340.

RATIER-COUTROT, L. (1985),
"Les économistes français vus d'Amérique", *Futuribles*, Vol. 91, pp. 71-76.

WOLFELSPERGER, A., POMMEREHNE, W.W. and FREY, B.S. (1988),
"La valeur des économistes français", *Revue française d'économie*, Vol. 3, pp. 145-174.

WOUTERS, P. (1999),
"Beyond the Holy Grail: from citation theory to indicator theories", *Scientometrics*, Vol. 44, pp. 561-580

The Use of Indicators in the Strategic Management of Universities

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ABSTRACT

Universities around the world are under increasing pressure to develop indicators of quality and performance. This paper argues that when set in a strategic context and understood appropriately, indicators can be a powerful tool of leadership and decision-making. They can contribute substantially to the elaboration of an institution's self-understanding, the establishment of its priorities, and the evaluation of its work.

INTRODUCTION: THE DEMAND FOR INDICATORS

During the past two decades most of the systems of higher education in OECD countries have turned their attention to the issue of indicators of performance. As universities have grown rapidly in size and in the scope and importance of their activities, they have come to occupy an ever more central place in the expenditure of both public and private funds. As a result of this continuing and enlarging flow of resources, elected representatives, government officials, and the media have pressured universities to provide measures of their quality and achievements. With countless claimants for limited funds, governments and others have required universities to justify their needs and to demonstrate their accountability.

In response to this pressure for indicators of performance, universities have been diffident and cautious. In academic circles it is widely claimed that the work of the university is not easily measured by quantitative indicators of productivity or quality. The discovery and transmission of knowledge and the formation of the mind, are complex human processes whose results cannot be reduced to simple measures of productivity. Universities emphasize that they evaluate themselves continuously and appropriately through peer review performed by academic professionals.

Nonetheless, the thirst for measures is unrelenting and widespread, especially concerning transparent indicators of *institution-wide* quality and capacity. In an effort to be responsive to the society that it serves and on which it depends, most institutions have developed an implicit or explicit set of indicators that they use in various ways to evaluate their strategic position and to assess their work. Rarely, if ever, do these indicators function with the directness and normative character that one might find in an industrial corporation. Yet they are increasingly used as ways to reflect the strengths, weaknesses and effectiveness of institutions of higher learning. Often developed through processes for accreditation or state funding, they are used primarily by institutions in self-evaluations to improve their own processes or programs (formative evaluation).

Quite frequently the claim is now heard that normative (or summative) judgements of performance should be made through the use of indicators, and funding awarded in terms of levels of demonstrated quality. Several state systems in the United States are experimenting with this kind of normative (or summative) evaluation for funding. To put these new funding approaches into perspective, it must be said that institutions are typically given the freedom to set their own goals according to their mission, and that many of the "indicators of quality" relate to the establishment of "best practices", such as mandated *evaluation procedures* (for teaching, tenured faculty, etc.).

STRATEGIC DECISION-MAKING AND THE CULTURE OF THE UNIVERSITY

The central aim of this article is to define the context in which indicators can be used most constructively and effectively within higher education. It will be argued that when set in a *strategic* context and developed appropriately, indicators can be a powerful tool of leadership and decision making. As institutions define themselves and set priorities for their future in terms of the opportunities and challenges that confront them, carefully drawn indicators can be of substantial benefit.

Since the effective use of indicators has been given a strategic orientation, we must first understand the power and the possibility of strategic decision making for universities.

Everyone who exercises leadership and management responsibilities within a university knows well that the decision making culture of institutions of higher learning is peculiar and challenging. As both direct management experience and formal studies of higher education reveal, universities must respond to multiple constituencies. Studies by European and American scholars, and the reports of organizations like US accrediting and educational associations, the OECD and the Association of European Universities all reach similar conclusions. Universities have multiple constituencies – the interests of faculty, staff, boards of directors, local and national governments, students, parents, former students, and others, all

seek to be represented in university decisions. In some countries some groups are more salient and organized than in others, but the patterns are reasonably comparable. In such a context, as is said in a recent report on the role of the university president by the Association of Governing Boards in the United States, a president often becomes simply a juggler of interests. Presidents find it increasingly difficult to set an agenda for action and to move that agenda toward implementation.

The problem of multiple constituencies is related to an even deeper problem, which again seems to be nearly universal in university decision making. The fundamental challenge in university decision-making is the requirement to institutionalize the values of academic professionals, values that typically resist the very processes of institutionalization. To be effective and to do their best work, academic professionals require substantial autonomy. Yet, all institutions as such necessarily insist upon regulations and controls in order to be accountable to the larger social system of which they are a part. Every participant in university decision-making knows well the small and large conflicts between autonomy and control that play out on a daily basis in virtually every university. Similarly, academic professionals insist on resources to serve the intrinsic value of the knowledge they seek, while institutional leaders must forge instrumental decisions that will strike a balance among the competing claims on the university's limited funds.

Academic autonomy plays out in especially complex ways as academic disciplines organize themselves into departments, programs and schools. Now the professional autonomy of individuals becomes compounded and intensified as they organize themselves into groups and units that frequently define their priorities separately from the goals of the larger organization. Most observers of higher education comment on the fragmentation of university life and decision-making.

One could easily continue to elaborate on the complexity of decision making within higher education by examples of other conflicts in the fundamental values of the decision-making culture. Even this brief analysis suggests that universities need to invest considerable time and energy in the discovery and articulation of the shared values and common interests that mediate and transcend the conflicts, providing a sense of common purpose. Indeed, the discovery of a common set of values that can serve as the basis for the collective life of the organization is one of the primary tasks of leadership. A number of scholars have concluded, in fact, that effective leadership depends upon the ability of leaders to know and to articulate the institution's identity, or as one frequently hears, to know and to tell the university's story. In the words of the Harvard psychologist, Howard Gardner,

> "I argue that the story is a basic human cognitive form; the artful creation and articulation of stories constitutes a fundamental part of the leader's vocation. Stories speak to both parts of the human mind – it's reason and emotion. And I suggest further, it is in *stories of identity* – narratives that help individuals think

about and feel who they are, where they come from, and where they are headed – that constitute the single most powerful weapon in the leader's literary arsenal."

With this as the vital context, that is, strategic decision-making that manifests an institution's distinctive possibilities and priorities, we can begin to see the potential power of effective indicators. Indicators can contribute substantially to the elaboration of an institution's self-understanding, the establishment of its priorities, and the evaluation of its work.

As a consequence, the suggestion arises that institutional leaders can seek to develop indicators as a means through which to answer the question of identity, "Who are we?" To do so is to transform dead statistics into indicators that have the capacity for self-revelation. The task is to read indicators as measures that point beyond themselves because they reveal an institution's special identity, as found in its distinctive capacities and core competencies.

INDICATORS: STRATEGIC, KEY, PROPORTIONATE, COMPARATIVE, AND TRENDLINE

If both quantitative and qualitative indicators are to have this capacity to convey meaning they must obviously be chosen carefully and thoughtfully. So, for example, it is important to move back and forth between raw statistical information and the more intuitive sense that a community possesses of its distinctive mission and its particular opportunities. Within this process of reflection and dialog about an institution's best possibilities, indicators will present themselves in various basic forms. Typically, this involves translating raw information into ratios or into percentages that capture an institution's relative position on a given measure. Frequently indicators are most effective when they relate an absolute figure to a depiction of relative position. Thus, it is helpful to know how a measure translates into a per-student, or per-faculty, or per-employee measure.

Also vital is the disciplined selection of the most illuminating or "key" indicators, those that carry the central motifs of the institutional story in an "economic" form. Too many or less important indicators will weaken the strategic impact of the process. The selection of indicators, both as to number and form is a demanding task, but also one that can evolve over time. The aim is to find meaning in the indicators, and the task of institutional leaders as managers is to manage those meanings.

When key measures are presented in relative terms, by ratios, by percentages, or by other proportionate measures, it then becomes possible to develop effective comparative analyses. If good data can be obtained (which is often not the case) from similar institutions, then a pattern of relative indicators can be used effectively to compare results. Needless to say, the task of self-understanding is usually advanced substantially when a fruitful comparison can be made with others.

The use of comparative data can lead to the development of common benchmarks in which certain measures come to be associated with a "best practice" and thereby take on the character of a norm. Yet, even if benchmark results prove only infrequently to be true norms, much is to be learned from the process of careful analytical comparison. Comparative analysis reveals quickly the fundamental truth that indicators only have meaning when they are interpreted within a larger framework of professional analysis and judgement. If the indicators are pushed prematurely or inappropriately into a normative or judgmental role, then their true purpose is distorted. Indicators can be significant points of departure for reflection and for inquiry. They give rise to thought and help to shape critical questions for exploration more than providing definitive answers. If, for example, a comparative analysis shows that a university's costs are much higher than any comparable institution for a given activity, there may or may not be good reasons that explain the divergence. The divergence carries no fixed meaning, but it presses for an exploration of the issue with a focal point for the inquiry. Ultimately, indicators have to be drawn into the context of conscientious professional judgement and decision-making to be effective.

Just as comparative data can help to sharpen an institution's sense of itself, so can trendlines in indicators reveal substantial changes in an institution's identity over time that otherwise might be missed. An analysis of changing patterns of enrollment by program and degree over, say, a ten-year period may tell a very significant story. In many contemporary institutions these trendlines show a strong pattern of student movement toward ever more practical and applied fields and away from fundamental disciplines in the arts and sciences. A clear cognizance of these trends sets the stage for professional reflection and potential action to respond to the trends as institutional mission, circumstances and resources dictate.

Trend analysis is obviously of critical significance in analyzing an institution's financial performance. Often at stake in this domain are changing patterns in the structure of an institution's income and expense. What is happening over time to the structural components of revenue, for example? Many European and US public institutions have learned from their financial trendlines that they are far less state-supported than was the case just a decade ago. Revenues from student tuition, adult students, research, contracts, and rental of facilities have increased dramatically as a proportion of income, while state subsidy has dropped dramatically. What is the strategic meaning of these numbers? It has given rise in some states in the United States to the exploration of a redefinition of the very terms of institutional identity and governance.

UNIVERSITY OF RICHMOND FACT BOOK: PLANNING AND PERFORMANCE

It may be helpful to connect theory with practice by examining the use of indicators in a concrete case, the University of Richmond's *Fact Book*. The *Fact Book*, an annual publication, is organized around the basic areas of institutional life, each of

which has a series of measures. Thus there are sections and indicators relating to general characteristics, admission and enrollment, finances, fund raising, academic programs, faculty, and student life. The information is displayed precisely in the forms that have been suggested; that is, there are trendlines, ratios, percentages, and a substantial amount of comparative information, based on comparisons with 20 other institutions. The data reveal some of the particularities of the American experience, but that may represent a difference more in form than substance.

It might be interesting to look at one of the places where the difference between American and European universities is the largest, and that is in the realm of fund raising. The section on "Development" in the F*act* B*ook* provides a good example of the analysis of the University's fund-raising performance through the use of indicators. The data are presented both in terms of single-year results through time, as well as by means of three-year averages in the comparative analysis. What is the reason for the two types of indicators? A one-year result can be misleading when used for comparison because there are erratic variations from one year to the next in an institution's receipt of funds. Much depends upon whether the institution had a special fund-raising campaign or whether it perhaps received a large bequest in a given year. Also critical for comparative analysis is the amount of resources that were raised on a per-student or other relative basis. Without proportionate results, there is little ability to understand the real potency of a fund raising program. The size of the institution is obviously critical in relation to its results; both in terms of the number of sources to which a university can turn as well as the way its needs are influenced by size. Accurate knowledge of an institution's relative capacity to raise funds provides fundamental and decisive information about the institution's possibilities for the future.

The data that we find in this F*act* B*ook*, and in many similar publications at other universities, goes not only to the question of identity but as well to the issue of performance. The same indicators tell us not only who we are but also how we have done. Now, in this context it is critical to understand that the term "performance" is typically used very broadly. For many university activities, especially the core educational processes, there are only proxies for performance. So for example, the assessment of an institution's effectiveness in providing students with a superior education can only be approached by using pointers and proxies for a process that is itself beyond genuine measurement. What are some of these proxies? At the University of Richmond each academic department is expected to develop its own pattern of exit interviews with students, to send periodic questionnaires to graduates, and to collect data on the post graduate activities of its alumni. In the F*act* B*ook* itself there are summary data about the success of students on various postgraduate examinations, including public licensure exams. The results of an annual survey of graduate employment patterns as well as admission rates to various graduate and professional schools are included in the F*act* B*ook*. Graduating students are also

asked more subjective questions in terms of their opinions regarding the quality of the education they have received, the skills and knowledge they have gained, the changes they note in their academic interests, and their evaluation of various administrative offices and services. This survey is done on a comparative basis with a dozen other institutions. All of these efforts are embedded in a continuing and comprehensive process of evaluation by school, department and university-wide that is linked to cycles of strategic planning and accreditation.

The issue of performance is also to be found in other sections of the F*act* B*ook* although often the term takes on shifting meanings as one moves from one context to another.

So, for example, the F*act* B*ook* contains annual faculty salaries by rank, as well as comparative data from national studies and from designated groups of similar institutions. To the extent that the strategic goals that have been set for salaries are achieved, this is taken as a measure of successful performance. Performance is also measured, perhaps more directly, in the ways in which financial position is evaluated. At a minimum, effective performance requires a balanced budget, but actual expectations are set to a higher standard. At the University of Richmond and most other private institutions, the endowment is expected to grow more rapidly than spending plus inflation, and funds are set aside annually for the maintenance, renovation and replacement of campus facilities and equipment.

In the realm of performance, it is clear that indicators must be chosen carefully by the institution itself for them to have meaning. In selecting them, attention has to be focused on those measures that will display an institution's own perspectives on quality to enable what we have called formative evaluation. No one can design absolute measures that would fit every institution to measure abstract definitions of performance.

CONCLUSION: SELF-DEFINITION, EVALUATION, AND IMPROVEMENT

The data that is gathered and analyzed for self-definition, and is then turned toward the purposes of the evaluation of performance, obviously sets the context for the establishment of goals for the future. The process of strategic planning depends critically on the establishment of objectives, many of which will be numerical, to guide the institution's design for the future. Needless to say, numerical goals must be chosen with consummate care if they are to be both realistic and demanding in energizing that institution's best possibilities. Goals need to be aspirational as well as attainable so that their achievement will take on genuine significance and provide the basis for institutional pride and confidence.

Finally, the indicators that an institution chooses must provide the basis for its continuing efforts at evaluation and at self-improvement. As institutions continually assess themselves by the indicators that they have chosen to define themselves

and their aspirations, the basis is set for constant institutional improvement. As the results of evaluation are gathered the question immediately is posed as to how what has been learned will be used to improve the institution's overall effectiveness. Thus, a closed loop is created as indicators are developed to reveal an institution's identity, to set goals, to assess its effectiveness, and finally translated into policies and practices that will result in improvements to overall performance.

One goal of this article has been to demystify much of the current emphasis on the use of indicators within higher education. When pursued in the improper manner, as if they were universal measures of achievement that could be imposed from the outside, or when it is believed that educational performance can be entirely quantified, they are meaningless or even dangerous. If, on the other hand, indicators are developed within the context of an institution's own efforts at strategic self-definition to both reveal and evaluate its own effectiveness, then the contribution to effective leadership and decision making is substantial. Indicators then become part of an unbroken process of strategic discovery, evaluation, and action that offer tools of leadership of substantial power and promise.

References

GARDNER, H. (1995),
Leading Minds, New York, NY, p. 43.

RENEWING THE ACADEMIC PRESIDENCY (1996),
Report of the Commission on the Academic Presidency, Association of Governing Boards.

Index to Volume 11

The following section contains a list of contribution published in Volume 11/1999. *The list is organised in alphabetical order of authors. The title of articles is listed only once in the case of multiple authors.*

Appropriate articles are abstracted/indexed in Current Index to Journals in Education (ERIC).

Information for Authors

Contributions to the IMHE Journal should be submitted in either English or French and all articles are received on the understanding that they have not appeared in print elsewhere.

Selection procedure and criteria

Selection of articles for publication is carried out by the Editor of the Journal. Articles short-listed for consideration are submitted to independent referees for review.

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 is 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*.

Presentation

****Three copies*** of each article should be submitted, typewritten (1½ spaced) on one side of a page only.

Length: should not exceed 15 pages including figures and references.

The first page: before the text itself should appear centred on the page in this order the title of the article and the name(s), affiliation(s) and country/countries of the author(s).

Abstract: the main text should be preceded by *an abstract of* 100 *to* 200 *words* summarising the article.

Quotations: long quotations should be single-spaced and each line should be indented 7 spaces.

Footnotes: authors should avoid using footnotes and incorporate any explanatory material in the text itself. If notes cannot be avoided, they should be endnotes typed at the end of the article.

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References at the end of the article: references should be listed in alphabetical order under the heading "References". Examples of the reference style used in the Journal are:

- For periodicals: TAYLOR, M.G. (1991), "New Financial Models – Summary Report", *Higher Education Management*, Vol. 3, No. 3, pp. 203-213.
- For books: SCHUSTER, H. (1988), *Changing Patterns of Finance of Higher Education*, Country Study, Germany, OECD, Paris.

Electronic text: articles should be retained in electronic form, since a diskette or electronic transfer will be requested if the article is accepted.

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