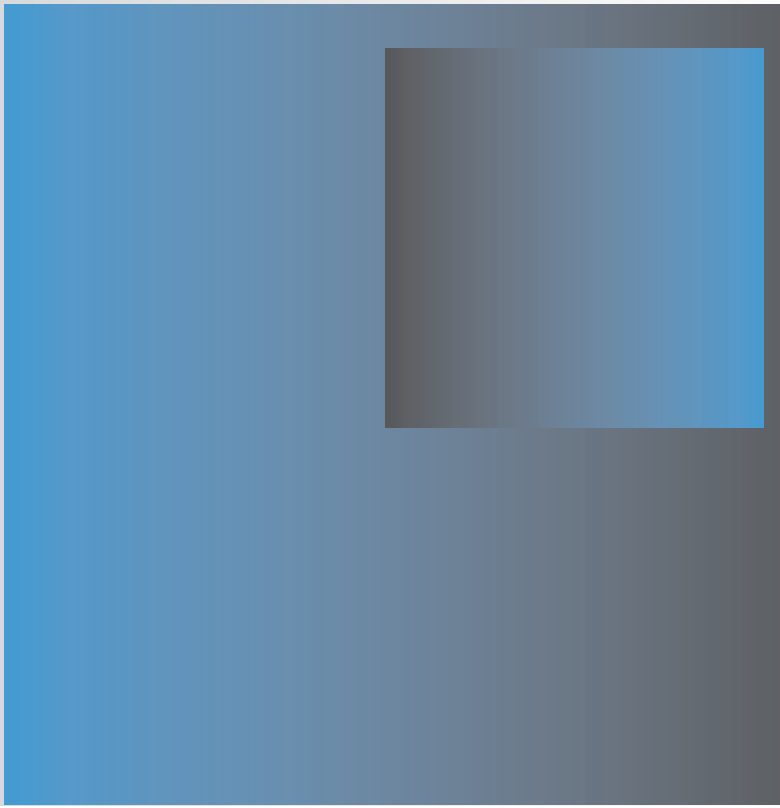
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on Institutional Management
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Higher Education Management and Policy



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Revenue Generation and its Consequences for Academic Capital, Values and Autonomy: Insights from Canada

by
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The greatest challenge for institutions of higher education in most OECD countries since the 1970s has arguably been to cope with reduced public support. Many institutions responded to reductions in funding, first, by cutting costs and lobbying governments to reverse cutbacks, and then – when it became clear that funding levels would not be restored – by seeking out new sources of revenue. Some institutions decentralised resource allocation in order to encourage units to generate non-government revenue. Recent research into the revenue generation strategies of Canadian universities suggests, drawing upon the work of Pierre Bourdieu, that such measures, while potentially effective in stimulating resource acquisition – and beneficial in other important respects – change internal values and conditions in ways that may ultimately undermine universities' autonomy, public credibility and capacity to create knowledge. Can leaders and managers enable their institutions to secure vital revenue, without diluting the values and conditions that have made universities unique and valuable to society? Can decision makers in government foster entrepreneurialism and responsiveness on the part of higher education institutions without compromising their raison d'être? *This paper sheds light upon these questions.*

The late 20th century witnessed a decrease in public funding for higher education, relative to private funding, in most parts of the world (World Bank, 2002). In many OECD countries, the proportion of institutional funding received from the state declined; in some jurisdictions, this translated into reduced public funding per student (OECD, 2004). Many publicly funded universities responded, first, by cutting costs and, then – when it became clear that a return to the *status quo ante* was not in the cards – by seeking out new sources of revenue.

The flavour of universities' revenue generation strategies varied from country to country. Whereas short courses, overseas students and consultancy featured prominently in the revenue generation strategies of universities in the United Kingdom late in the 20th century, for example, fundraising and institutional marketing were central in the United States. In spite of these differences – largely attributable to differences in the regulatory regimes to which the universities were subject – there seem to have been commonalities in the internal management reforms introduced in order to survive in the new funding environment. One appears to have been decentralisation of resource allocation: movement away from central line-item budgeting to arrangements (such as block, responsibility centre or break-even cost centre budgeting) that give faculties and other units greater incentive to control costs and/or generate revenue.

Recent research into the revenue generation strategies of four major Canadian universities suggests that decentralisation of resource allocation in a context of scarcity also changes values and behaviour. Although such measures may be necessary for financial survival – and, in important respects, beneficial – if carried too far, they may jeopardise universities' capacity to fulfill an independent role in society, the trust in which universities are held by the public and their claim on the public purse.

The research

The research was a theory-building comparative case study of the revenue generation strategies of four major Canadian universities and their faculties of arts, business, dentistry and science. Conducted between 2002 and 2004, it involved semi-structured interviews with university leaders and deans, analysis of financial data, and extensive archival research. Although the study set out to investigate revenue generation strategies, its findings suggested that a focus on revenue is too narrow. A fuller understanding of the interview results

and other data emerged when it was recognised that, as Pierre Bourdieu suggested, there are multiple forms of capital, for which individuals and organisations compete. The value of a particular type of capital is a function of its scarcity. The first and most familiar form is economic capital, *i.e.* capital "which is immediately and directly convertible into money" (Bourdieu, 1986, p. 243). A second is cultural capital, *i.e.* capital based on knowledge or culture. The type of cultural capital most relevant here consists of the knowledge, skills and cultural attainments of individuals. Cultural capital can be converted – with varying degrees of ease, time and risk – into economic capital, but cannot be reduced to it. Indeed, cultural capital that is seen to be too economically motivated loses its legitimacy and, hence, value.

Fields of restricted and mass production

Bourdieu conceived of organisational fields (*e.g.* the literary community, the business community) as hierarchically structured networks of social relations. Fields differ in the forms of capital at stake within them. Individuals and organisations compete continuously for control of the capital at play in their fields, in their quests to get ahead.

The interview data obtained in the course of this research confirmed that universities comprise a field, thus defined. Asked about the aspirations of their universities or faculties, most interviewees described the latters' desired positions in a hierarchy ("to be in the first rank of public research universities in North America", "to be in the top five faculties … in the country", to be "among the major research universities of the country"). In other words, the most common institutional aspiration was to move up or to maintain one's position in one's field. Such aspirations are typical of not-for-profit institutions. As Winston and many others have noted, such institutions typically seek to move up in their reputational hierarchies, to emulate top institutions, to be "Harvard-in-the-small" (Winston, 1999, p. 10).

Bourdieu distinguished between fields of restricted cultural production and fields of large-scale or mass production. In the former, producers create cultural goods for other producers (*e.g.* poets write to be read by other poets). Such fields are governed by norms and sanctions specific to them. They are relatively self-contained communities, in which an individual's position depends principally on the esteem in which he or she is held by peers (Bourdieu, 1993). They are gift economies, in which products are given away in return for recognition. Cultural capital is valued highly, relative to economic capital. Indeed, in fields that are far removed from the market, financial and commercial success are scorned and interpreted as evidence of lack of merit.

In contrast, fields of large-scale production feature production for "the public at large". Investment is driven by the quest for markets and profits.

Producers are subordinate to those who control the mechanisms of production and diffusion. Their work serves pre-existing external needs. Their performance is regulated by management control mechanisms and measured in terms of commercial success. Insofar as production is for existing market needs and demands, it is much less economically risky than restricted cultural production, which is driven by producers without reference to others' interests or needs.

How does the distinction between restricted and mass production apply to higher education? Academic disciplines are fields of restricted cultural production, in which producers create goods for each other (*e.g.* professors write for scholarly audiences). An individual's position within his or her discipline is a function of peer recognition and esteem. The value of an academic work is not reducible to its economic value or its public importance. To the extent that research is curiosity-driven, it is without reference to external needs or markets. The more autonomous the discipline, the more works derive value, not from readership or commercial success or public acclaim, but from conformity to what is regarded as legitimate and valuable in the field.

For the purposes of this paper, the cultural capital valued within academic disciplines will be referred to as academic capital. (Note that the term has a different meaning here than that given to it by Slaughter and Leslie, for example. They used "academic capital" to refer to a "commodity … which is no more than the particular human capital possessed by academics" (1997, p. 11) – in other words, to capital, the value of which is defined in economic terms. In contrast, academic capital as defined here derives its value from the discipline or profession in question.)

At the other end of the higher education spectrum, for-profit providers of higher education engage in mass production. Whether proprietary institutions or publicly traded companies, their mission is not – as for public universities and private not-for-profits – to advance and disseminate knowledge, but rather to generate profit. Their governance structures and processes are corporate in nature. Faculty power is greatly diminished. Unlike their counterparts in the not-for-profit sector, faculty members in the for-profit sector lack tenure and control over the curriculum. "In a real sense", Ruch observed, "faculty in the for-profits are viewed by the business side as being delivery people, as in delivery of the curriculum" (2001, p. 115).

For-profit providers are very responsive to student and employer demand. They take their cues from the market, rather than seeking to persuade the market of the value of what they offer. Unlike not-for-profit universities – known for adding new activities onto existing ones and consequent inability to control costs – for-profits are focused, quick to move out of unprofitable activities, efficient in the use of faculty and space, and

rigorous in cost accounting and control (Ruch, 2001; Tooley, 2001). In Ruch's memorable words, "the academic side of the house becomes a tightly managed service operation" (2001, p. 17).

Insights from the Canadian context

Canada is a federation in which higher education is a matter of provincial jurisdiction and in which the university sector consists overwhelmingly of "public" institutions – more precisely, not-for-profit corporations, established by acts of provincial legislatures and sustained by a combination of provincial operating funding, federal research funding, fees and other private funding. The four universities studied were all of this type. They were also similar in offering degrees from the baccalaureate to the doctoral level in a wide range of fields including medicine and dentistry. Nevertheless, owing to differences in age, location, size, history and funding, they and their faculties occupied different positions in the university hierarchy. The two largest were at or near the top and saw themselves as international players; the smaller universities were further down the hierarchy and sought to compete in the domestic realm.

The proportions of the four universities' operating income derived from government had declined by 33%, 26%, 16% and 4%, respectively, between 1990/91 and 2001/02 (CAUBO, Annual). Three had decentralised resource allocation as the operating funding they received from government had declined, in order to encourage faculties and other units to engage in revenue-generating activities. Were they behaving like profit-seeking corporations? Far from it. All four continued to subsidise activities they deemed to be central to their missions. That which they subsidised varied with their conceptions of their missions, but all four subsidised grant-funded research. This was necessary because Canadian governments were not funding fully the indirect and overhead costs involved. Contrary to the suggestions of much of the literature on academic capitalism, these universities did not do research in order to obtain revenue; they scrambled to secure revenue in order to fund research. Three of the four also appeared to be increasing the extent to which graduate education was subsidised (*i.e.* increasing the ratio of operating funding to fee revenue and other private funding).

Nevertheless, it appeared that two universities and numerous faculties had moved to varying degrees toward the field of mass production. One indication of such movement was increased responsiveness to the interests of students and other clients. Senior officials at the university that had experienced the most dramatic percentage reduction in government funding during the 1990s – and had become correspondingly more dependent on fee revenue – reported that it had become significantly more attentive to students. One interviewee observed that the university was "gradually moving from what I would call a faculty-

centred university … to a more student-centred university". A leader of a second university said that its approach to students had changed a great deal as a result of its efforts to recruit international students: "We were an old, traditional university. People came to us; we didn't have to go after them. There was a lot of that [attitude] throughout the whole university. That's changed dramatically!"

Increased attentiveness to student satisfaction was reported by deans, as well, particularly within professional schools. Many of the business and dental schools had or were in the process of increasing fees for some programmes dramatically. The dean of a dental school, that had begun several years previously to charge full cost recovery fees to many of the students in its first professional programme, noted that students' expectations had risen with the fees they paid and that the faculty was having to change to meet them.

In order to continue to attract and retain full cost fee-paying students, the school was devoting much more attention to monitoring student satisfaction and responding to their feedback than it had in the past. The dean also wished to establish a career stream for individuals who were excellent teachers, but not active in research. In undertaking increasingly detailed evaluation of instruction and developing a teaching-only stream, the school was adopting some of the practices typical of for-profit higher educational organisations.

Rapid programme development and change appeared to be another characteristic of schools that were moving into mass production and charging fees approaching or exceeding costs for some programmes. Interviews with deans of business suggested that rapid change is the norm for executive development programmes and full cost recovery/premium fee degrees.

Research in some faculties appeared to be increasingly externally-driven as well.

A dean of science, whose faculty's revenue generation strategy consisted principally, not of the provision of education at full cost, but of securing externally funded research chairs, noted that the faculty's success in that endeavour had resulted in closer alignment of its research capacity with the needs and interests of industry. He remarked that "the areas of research the faculty engage in have become shifted towards things that are, sort of, imposed on us by outside".

A further indication of movement toward the field of mass production was that numerous deans reported increasing tension between teaching and research. This tension took various forms. Faculties, the financial survival of which depended on teaching large numbers of students, and which were constrained in the use of part-time and sessional faculty, struggled to protect faculty members' time for research. In several research-intensive faculties, deans described developments including: divergence between areas in which positions had been funded by external research sponsors and areas in which

teaching capacity was needed; progressive separation of researchers from teaching and teachers – and disparity between the rewards accorded the two groups; and increasing reliance on practitioners and other part-time teachers to deliver instruction. Resurgence in federal funding for research and in rewards for top researchers was increasing the disparity between the salaries of researchers and those of teachers. Good teaching professors – people who "love the science and love teaching and love the university" – were said not to be well rewarded financially, nor to be receiving the praise and recognition that researchers got for their work.

These reports suggest that education and research are pulled in different directions as universities move into mass production in either or both realms. This is unsurprising insofar as "clients" for the two types of activity have different areas of interest and types of need. The complexity of the activities necessary to meet their needs – and the roles of regular faculty, sessional faculty and staff in carrying out those activities – differ as well. The evidence of divergence in demand, conditions and rewards for education and research also makes sense in light of the fact that for-profit providers of higher education tend not to do research (other than curriculum- or instructional technology-related research and development). That in part explains their capacity to generate profits, even while competing with institutions that are subsidised by governments and/or private sources (Ortmann, 2001). As noted elsewhere (Eastman, 2006), the absence of research from their missions also explains why for-profits are able to manage their faculty and their costs tightly, dispensing with the less orderly, more expensive arrangements typical of creative organisations, including universities. Research-intensive universities have, to a great degree, traditionally favoured creativity and innovation over co-ordination and focus. Serving clients, however, requires co-ordination and focus, which is why management hierarchy and controls are pronounced in institutions of higher education and/or research engaged in mass production.

The universities involved in this study were far from behaving like commercial laboratories, on one hand, and educational companies, on the other. (Indeed, owing to federal reinvestment in university research, it appeared that, overall, they were moving toward mass production in education, while moving away from it in research.) It nevertheless appeared that teaching and research were bifurcating and that the teacher-scholar model was under great stress.

A final indication that some of the faculties studied were moving toward mass production lay in the economic philosophies espoused by their deans. The views expressed by one dental dean exemplified those of the leadership of a faculty engaged in restricted cultural production. The assumptions were that: good academic work deserves to be funded adequately; it is the responsibility of government to fund universities adequately and of universities, in turn, to fund

their faculties properly; when funding is insufficient to meet the university's needs, resources should be allocated on the basis of academic priorities. This dean thus expressed concern about mechanisms whereby universities match private donations, the result of which is to direct university resources to activities favoured by external donors or funders, *i.e.* to skew the allocation of resources from that which is academically- to that which is externally valued.

Most of the 14 deans interviewed were less insistent that academic, rather than financial, considerations should drive resource allocation and activity. Their view appeared to be that it is legitimate – indeed necessary – to generate revenue by meeting external needs in order to sustain one's faculty's activities – *i.e.* to subsidise restricted cultural production by means of mass production. A dean who held this view explained that, in designing a revenue generation strategy, one starts with the school's mission and vision and develops a business plan for generating the revenue required from sources including "tuition, [other fees], entrepreneurial activities, intellectual property spin-offs, and so on and so forth".

An even more radical perspective – for an academic leader at a publicly supported university – was voiced by two deans of business. In this view, there is no such thing as generating revenue; it's all about delivering value. One dean explained that universities and faculties can no longer look to governments to meet their financial needs, because governments are relinquishing responsibility for paying for post-secondary education. Henceforth, "the needs will have to be financed by where you[r faculty] add[s] value". The real question is therefore: "[W]here do you deliver value and how do you fund delivering that value? [Y]ou need to share in the value that you deliver. So, that would be my point: identify the points where you're adding value, where you should add value, and understand how some of that value is to be shared in order to fund your operation for delivering that value."

Whereas university leaders and members engaged in restricted cultural production, such as the dental dean quoted above, feared the corrupting effect of revenue generation, those engaged in "delivering value" reported that the quest for revenue forces one to improve quality. The business dean quoted above explained that revenue generation is not separate from a business school's mission, it is part of that mission. One's success in generating revenue is thus a reflection of one's success as a school. In this view, there is no such thing as autonomous academic capital; economic capital is the measure of value within and outside the university.

Conditions for mass production

When Bourdieu first wrote about the different types of cultural production, the exemplar of mass production in higher education – the publicly traded higher education company – did not yet exist. Bourdieu nevertheless witnessed

and noted, decades ago, elements of mass production within state-sponsored higher education. He observed in *Homo Academicus* that the research-oriented social scientific groups and institutes that emerged in France in the 1960s behaved much like firms. Their heads represented "a new kind of cultural producer, whose presence in the academic field … constitutes a decisive break with the fundamental principles of academic autonomy, and with the values of disinterestedness, magnanimity and indifference to the sanctions and demands of practice. These academic managers [were] busy seeking funds for their 'laboratories', frequenting committees and commissions to pick up the contracts, information and subsidies necessary for the good running of their enterprise, and organising symposia designed to publicise their productions …" (1988, p. 124). In the intervening decades, entrepreneurial activities of many kinds have been undertaken by institutes, centres, schools of continuing education and other bodies, located upon the peripheries of universities. As noted above, such structures are much better equipped to respond to clients and markets than are faculties and departments. Marginson and Considine have indeed suggested that the development of centres and cross-disciplinary schools was fostered within Australian higher education during the late 20th century in order to circumvent academic departments and weaken the power of academic disciplines (2000, p. 10).

This research suggests that, as this century dawned, mass production was taking place in Canada, not only within peripheral bodies, but also at the core of some universities. Although only deans of business articulated economic philosophies consistent with mass production – *i.e.* argued that value is as determined by the customer, rather than in the academy – signs of mass production, such as increased service orientation and tension between teaching and research, were seen in other types of faculty as well.

Canadian universities are obviously not alone in moving toward mass production in higher education. What factors account for this? Derek Bok, reflecting on the American scene, suggested that two major developments have led universities to become more engaged in the marketplace: financial cutbacks and the "rapid growth of opportunities to supply education, expert advice, and scientific knowledge in return for handsome sums of money" associated with the rise of the knowledge economy (2003, p. 10); in other words, scarcity of economic capital, coupled with opportunities to transform academic capital into economic capital.

What happened to universities in most OECD countries late in the 20th century was that academic capital depreciated relative to economic capital, as a result of cutbacks in public funding. The relative economic value of academic capital in different fields of study also changed with the advent of the "knowledge economy", as revolutions in information technology and biotechnology increased the economic value of academic capital in these and

related fields. In the 1960s and early 1970s, large-scale public investment in higher education had meant that academic capital was scarce relative to economic capital and, indeed, physical capital. There was great competition amongst universities for faculty members. For a short period, funding for education and research was plentiful. A "good department" (*i.e.* one with a lot of academic capital) had no difficulty securing resources from its university. By the 1980s, however, universities' administrations were handing out cuts. Academic capital no longer commanded resources. Although a reputation for excellence would probably stave off closure, it would not enable a faculty or department to expand its activities. Economic capital was necessary for that – and its scarcity raised its value, to differing extents within different fields of study, relative to academic capital.

As Bok suggests, financial scarcity is necessary, but not in itself sufficient to engender mass production: there must also be opportunities and incentives for serving markets. Universities must be able to charge tuition fees, negotiate contracts and reap financial benefits from serving clients in other ways. They in turn must decentralise resource allocation sufficiently to enable, indeed to require, faculties and other units to provide services and goods that are valued by clients and to share in that value. As Massy observed with respect to responsibility-centre budgeting, such decentralisation "extends the sensitivity to market forces down through the institution" (2001, p. 455). In its absence, faculties are likely to respond to academic over economic considerations. The vice-president finance of one of the universities involved in this research explained that the dire financial predicament in which it had found itself during the 1980s had been caused in part by the absence of incentives for enrolment growth:

> "I have a fixed piece of revenue", each dean and each faculty said, "and that won't change if I take less students". So enrolments actually declined [during the 1980s]. And, if you think about it, that was totally logical behaviour … [If my unit will] continue [getting its] cheque every month, [and] I can do less teaching for it, [I will] therefore have more time to do my scholarly work. Any sane person would do that! They acted appropriately, given the structures they were presented with. So we had to change the structures and change the behaviour.

Benefits and costs of moving into mass production

So, what are the pros and cons of decentralising resource allocation to expose faculties to the conditions of scarcity and opportunity that will "change the behaviour"?

The first and most obvious benefit is increased non-government revenue. The number of universities studied in the course of this research was small.

Higher education being a provincial responsibility in Canada, the institutions were also subject to different constraints. That said, it may be noted that the university that had decentralised its budget earliest and to the greatest degree had achieved an increase in non-government operating income of 335% between 1990/91 and 2001/02, compared to between 197% and 80% for the other three institutions (CAUBO, Annual).

A second benefit of decentralising resource allocation appeared to be that it empowers faculties, which are no longer as dependent on institutional decisions, and thus fosters a sense – if not the reality – of self-reliance.

A third benefit is simplicity. For a university, making decisions and allocating resources based on a faculty or programme's capacity to generate revenue is liberatingly easy, compared to doing so on an academic basis. As one dean said about attempts to close faculties on other than financial grounds, academic decision making is "very messy; [politics] gets involved and there is no right or wrong at the end of the day". In a university in which academic capital prevails, all intellectual pursuits are equally worthy. It is difficult to discriminate amongst disciplines and professions. That is fundamentally why universities engaged in restricted cultural production tend to have myriad goals, to be unable to set priorities and to be beset by academic "property rights". Owing to the catholic character of the academic outlook, decisions about priorities are much more readily made when market or other external considerations are brought to bear.

Fourth, the research suggested that decentralisation of resource allocation may reduce some forms of internal conflict. In centralised budget systems, a faculty's leaders and members tend to assume that if their budget is inadequate, it is because the university does not fully appreciate them and what they do. In other words, the budget a faculty receives tends to be seen as a reflection of its perceived academic value. When resource allocation is decentralised, deans and other faculty leaders appear to accept at least partial responsibility for the adequacy of the resources available to them. Those deans who regarded their universities as sources of investment capital naturally appeared to be more positively disposed toward institutional leaders than those who expected their universities to be sources of adequate operating funding.

A final, very important benefit of moving toward mass production is, as noted above, that it increases institutional responsiveness to students, clients, donors and other sources of funding.

There are, of course, also important costs. One is, naturally, that as faculties gain autonomy from universities and lose autonomy from the various markets they serve, administrators, faculty and staff identify less with the university as a whole. A vice-president of the university that had moved furthest toward mass production said:

> I think that a consequence of decentralisation and every-ship-on-its-own-bottom is that there's less sense of [this university] and of being part of a university than there used to be, even when I came here … It's not like we're all one institution and we're proud of the one institution and we're all willing to pull together. [It's more,] "I'll pull with you, if you can help me with this joint programme, and we can both make money on it" sort of thing.

This and other suggestions that budgetary decentralisation unleashes centrifugal forces and focuses attention on the bottom line at the expense of institutional and academic considerations echo much literature on responsibility-centre budgeting (see, for examples: Lang, 2001; Strauss *et al.*, 2001).

A second major cost of moving into mass production is separation of teaching from research. As noted above, the extent and nature of this development varied from university to university and faculty to faculty. In some faculties, it appeared that research was being squeezed out by the demands of instruction; in others, separate classes of researchers and of teachers were emerging; in yet others, some departments were becoming more research-oriented while others were increasingly preoccupied with instruction.

Although bifurcation of teaching and research is listed here as a cost of mass production, it can also be seen as an opportunity. The five-year plan of one of the business schools featured in this research anticipated that:

> [O]ver the next decade, market evolution and segmentation will reduce the number of internationally successful schools and relegate others to niche roles or less distinctive status. In the past, there have been numerous "players" and few "winners". Going forward, there will continue to be opportunities to "win", but those who just stay to "play" will end up losing. [...] Losers, unable to produce new content and integrative thinkers, will be relegated to the position of "licensees", focused primarily on providing delivery mechanisms for the content the winners create. (University of Toronto, Rotman School of Management, 2000, pp. 10-11.)

The school's dean predicted that top business faculties will license entire curricula to other schools, earning royalties that will enable them "to pay more and more money and to provide better and better environments for real content-creating professors. They are going to congregate at fewer and fewer schools and those schools are going to aggressively market their content". The dean stressed during the interview for this research that the goal of [this] school is to be one of those end-game players. In other words, rather than bemoaning increasing separation of teaching from research, the school anticipated it and was preparing to be a creator of content, the delivery of which would be licensed to others.

Perhaps the greatest risk associated with movement toward mass production is that devaluation of academic capital will lessen universities' autonomy and hence their value to society and claim upon public support. Society has traditionally looked to universities for knowledge that is not only current, but disinterested. Why such confidence in academics' independence? Not because professors are more ethical than others, but because they have ascribed to values other than those that prevail within society and the economy at large, values reflecting the traditional primacy of academic capital. Furthermore, professors enjoy freedoms and powers within their institutions that enable them to speak their minds. If academic capital becomes devalued, universities will behave much more like corporations – those who teach will no longer subscribe to autonomous academic values, and/or management hierarchy will have developed to the point that faculty members are constrained in expressing views contrary to the institutional interest. Universities' capacity to provide disinterested information and perspectives on issues and events would wither and, along with it, the repute in which they are held and hence their claim on society's resources.

Implications for policy and practice

What are the implications for the way university leaders manage issues involving values and ethics? University leaders should be aware that, in decentralising resource allocation to promote revenue generation, they themselves may change internal values, roles and control systems in ways that increase institutional responsiveness to students and clients but ultimately lessen universities' capacities to play unique and autonomous roles in society.

Can this be avoided? That is not at all clear. The revenue generation strategies studied in the course of this research were prompted by funding cuts. The great majority of those interviewed had encouraged their institutions or faculties to generate revenue, not because they were enamored by the private sector, but because their institutions had first responded to cuts in public funding by cutting budgets and it had ended up crippling them. The alternative to revenue generation was, as one interviewee put it, a "death spiral". If the impetus for revenue generation is beyond their control, what insights can university leaders glean from this research about how to encourage it while sustaining the academic core?

First, although the generosity or scarcity of public financing is largely beyond university leaders' control – as are ebbs and flows in the economic capital of disciplines and professions – insofar as university leaders allocate unrestricted public funding to units and decide whether and how to share other revenues, they influence that which is valued within faculties and the extent to which the latter engage in mass production. This research suggests that those

decisions are best informed by understanding of the portfolios of capital the university and each of its faculties possesses and can exchange with individuals and other organisations. The extent to which a faculty will move into mass production in response to a given budgetary requirement or incentive is a function of its market opportunities, its academic, reputational and other forms of capital, and its internal flexibility. As noted above, different faculties have different opportunities. Dental education in Canada had many of the features of oligopoly: a small number of producers with a highly sought after, relatively homogeneous good. Dental schools in provinces where professional tuition fees were unregulated therefore had much greater capacity to raise fees in response to budget cuts than did faculties of arts or science, for example. In response to budget pressure, the latter were more likely to increase enrolments, thereby running down their academic capital, particularly if constrained in the use of part-time and sessional faculty and unable to attract substantial private funding. Taking into account all the forms of capital faculties possess will sensitise university leaders to the broader consequences of the latters' quests for revenue. It will enable them to assess and compare the consequences of alternative strategies, not only for the bottom line, but also for the university's academic, reputational and physical assets.

A second suggestion is to maintain boundaries between not-for-profit higher education and the for-profit realm. One of the features of social and cultural capital identified by Bourdieu is that they risk evaporating if those who possess them are perceived to be economically motivated. Thus, for example, a university that permits an academic or other unit to compete with local business is likely to lose far more in reputation and future donations than it gains from the exchange. One of the universities involved in this study had encountered some "rough spots" in its fundraising endeavours, as a result of which it had developed guidelines to ensure that all donations were consistent with its commitment to academic freedom and its academic policies and priorities. In doing so, it shored up its reputational capital and its capacity to attract resources and faculty. A more subtle example of boundary maintenance was provided by the academic vice-president of a university, the revenue generation strategy of which consisted largely of enrolment growth. Asked if he perceived that the university's mission had been or might be skewed in any way by the need to generate revenue, he said:

> I don't see it as mission-skewing in any particular way. At the moment, I think we're able to attend to this as much as an educational question as a financial question. The goal here is not revenue generation. And, as long as we can avoid the goal being revenue generation – I mean, clearly, one of the outcomes is revenue generation, [but that's not the goal. T]he goal fundamentally is to maintain and enhance a first-rate educational institution.

Just as Oakes *et al*. (1998) found that the introduction of business planning in a public service context transformed a field of restricted cultural production into one of mass production, it may be possible to avoid or delay that transformation by keeping the focus on education, research or public service.

Finally, university leaders should resist the temptation to circumvent bodies and structures through which academic capital is built and sustained. As noted above, academic departments, rooted as they are in the disciplines, are less than optimally equipped for responsiveness to students and research clients. A university in financial duress might be inclined, as Marginson and Considine suggest happened in Australia, to weaken departments' power in order to improve service and generate revenue. Whereas some structures dedicated to mass production (*e.g*. continuing education units) can, by insulating departments and schools from such activity, protect them and their academic capital, others can weaken them, potentially jeopardising a university's capacity to make decisions on other than an economic basis in the longer run.

Asked whether he perceived any risk to his university's mission from the need to generate revenue, one provost said:

> I think it's a risk all the time. And I think you have to keep coming back to the fundamental values of the university. It's absolutely essential that you ask yourself, "What are we here for?" We're here to educate and to advance knowledge – and we're here to do that in a way that's not hampered, not restricted and not tied to anybody's special interests. [...] [O]ur whole credibility, our whole position in society, our position in the larger community, is built upon trust that we are the independent brokers, that we are that group which can look at things – not necessarily dispassionately – but in a way that looks at all sides of the issue. That's a fundamental principle and we've got to be there. And, that's where senates are important. It can be easy to get carried away with something. And you need to be brought back and answer those questions.

If reductions in public relative to private funding of higher education continue to require universities to move into mass production, conflicts between academic values and commercial considerations are inevitable. University leaders might be forgiven for preferring to avoid forums in which tough questions are asked. That said, how do they respond when, for example, a corporate partner objects to a research finding, confirms or subverts espoused values? The weight carried by academic capital in departmental, faculty and university governance forums may account in large part for universities' inability to set priorities, but it is also the source of their independence.

What, if any, insights emerge for decision makers in government? First, if public financing were to fall to such an extent that universities were forced wholly into mass production, they would be unable to fulfill their traditional

functions in society. Responsiveness to clients and markets can, if taken to extremes, be inconsistent with responsiveness to the interests of society. Responsiveness in this larger sense requires some autonomy from clients and markets. Academic capital is the source of universities' autonomy and capacity to provide disinterested knowledge, information and comment. Continued devaluation of that capital would reduce their ability to serve society in this way, as well as their capacity to create knowledge.

Mass production of education is by no means a bad thing. Privately funded mass production fills needs that the publicly funded sector does not. Furthermore, it extends access to tertiary education in countries in which the public purse cannot afford to do so.

For-profit providers of higher education are not, however, universities. University education is intimately connected to the disciplines and professions, as well as to students' needs and market demands. For-profit providers have important roles to play in many countries, but allowing them to describe themselves as universities obscures the fact that their missions are fundamentally different. In doing so, it does a disservice to universities and to the public.

The appropriate mix of not-for-profit and for-profit institutions – and of public and private funding for the former – will vary from country to country. That said, an appropriate public policy goal for most societies is to foster universities that are entrepreneurial and responsive, but not so much so as to lose their essence. Achieving that goal merits and requires sustained public block funding. What if the demands upon government and the size of the publicly funded higher education sector are such that government cannot afford to enable universities to remain autonomous? A smaller, more independent public sector may be preferable to a larger sector, subservient to the demands of the market.

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Individual and Institutional Liability of Researchers in the Case of Scientific Fraud: Values and Ethics

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Our intention is to recount the effort recently made by various scientific research institutions to establish rules of integrity, thereby superseding the role of previous legislative provisions strictly tackling the issue of ethics. We will also focus on how to solve conflicts of interest arising from the massive increase in third-party funding.

Introduction

How have university institutions generally tackled the fight against scientific fraud? We intend to throw light on the very process of public disclosure of scientific fraud, as it has transformed in the last 30 years within the framework of scientific research institutions.

By focusing our analysis on the "denunciation process", we intend to refer to the dual issue of the researcher's individual liability on the one hand and the institutional liability of the structures on the other. Passing from the individual stage, which involves criteria such as the truth of the research, to an institutional stage, which involves common ethical references, the analysis will highlight that the issue of research integrity (the accuracy of an assumption made by the researcher and its actual object) has been replaced by an ethical value more widely shared by the international scientific community. Chapter 3 below will demonstrate that this ethical value can be defined either as "confidence in science as a whole" or "the duty of objectivity relative to freedom of research".

The disclosure of scientific fraud is not only a private stage on which an "individual drama" is unfolding, involving the researcher's personal conscience or that of their closer associates; it is a "public stage" where inter-subjective references clash with collective values. This switch from private issue to institutional context has yet to be clarified in the knowledge society; while we know exactly what standards in terms of ethics and deontology are being breached by researchers when they do not comply with truth criteria, the collective institutional values involved in the case of scientific fraud have still to be examined.

Therefore we will recount hereafter the effort recently made by various scientific research institutions to establish integrity rules in scientific research (Chapter 3 below), thereby superseding the previous legislative provisions strictly tackling the issue of ethics (Chapter 2 below). The final chapter (Chapter 4) will deal with how to solve conflicts of interest arising from the massive increase in third-party funding.

Chapter 1 will deal with facts, initially focusing on a reminder of three special cases of scientific fraud uncovered at the University of Geneva (Switzerland), after which this chapter will tackle the recent case of Professor Hwang Woo-suk, from Seoul National University (Korea) (Nau, 2005, 2006).

Chapter 1. Cases of scientific fraud, presumption of fraud or breach of integrity in the context of the University of Geneva and elsewhere

To facilitate the approach to the different cases of fraud set out below, we shall distinguish three characteristic phases of investigation into scientific fraud:

- Phase I: preliminary collusion investigation.
- Phase II: generally carried out by a commission of international experts.
- Phase III: judgment, acquittal, dismissal or penalty phase, managing the consequences of the investigation.

Illmensee case (1983)

As this is an old case, it has generated a great number of official publications. The details provided below are taken from the report of 24 April 1985 written by the Geneva State Council for the Grand Council on the Illmensee case. Scientifically speaking, the Illmensee report of the international experts' commission of 30 January 1984 was subject to three voluminous publications.

The Illmensee case made the headlines as it is one of the first concerning cloning. Under the impetus of this researcher, the Cell Differentiation Laboratory was active in nuclear transplantation experiments. By publishing the test results in the *Cell* journal claiming the success for the first time of this type of transplantation in a mammal, followed by a complete embryonic development, the laboratory was distinguishing itself with a remarkable first. At the time, the issues surrounding this discovery were already considerable.

Below are extracts from the State Council's report:

> The Geneva university community was greatly affected, in 1983 and 1984, by the revelations of and investigations into the scientific activity of Professors Karl Illmensee and Marco Crippa. While the former was suspected of falsifying nuclear transplantation experiment protocols, the grievances against the latter related as much to scientific as administrative fraud. Mr. André Chavanne, State Councillor in charge of public education, lodged a penal complaint against Mr. Marco Crippa on 4 November 1984, for breach of trust, fraud and document forgery. (Conseil d'État Genevois, 1985a)

These two investigations resulted in an in-depth examination within the Grand Council and among faculty professors of the conditions of impartiality and transparency with which scientific research should comply in order to prevent scientific fraud. Hélène Braun-Roth's motion was very much the reflection of these concerns, which were also discussed during a university senate session in January 1985:

> On 19 May 1983, the rector of the University of Geneva informed the Department of Public Education that a preliminary investigation carried

> out by the science faculty had somewhat substantiated the alleged complaints made against Professor Karl Illmensee with regard to his scientific research: the principal grievances came from direct associates of Professor Illmensee, who had been interviewed by the dean of the Faculty of Sciences. The rector also informed us of the fact that he intended to appoint an international investigation commission, in charge of shedding light on this affair. The department approved the constitution of this commission.
>
> [...]
>
> The final commission report is dated 30 January 1984; it was published on Wednesday, 15 February 1984. [...] In its decision made that same day, the rector's office establishes that the conclusions of the report of the international investigation commission do not submit evidence of wrongful breach of professor Illmensee's duties.

Professor Karl Illmensee had in fact resigned from the University of Geneva before the final conclusions of the report were handed in. He subsequently submitted several penal complaints against his detractors, none of which ever succeeded.

With hindsight, the salient fact of this affair was that it contained a miniature version of all the ingredients (in particular the three abovementioned phases) of the future difficulties inherent in cases of scientific fraud.

In phase I (preliminary collusion investigations), it was the suspicion of two of Professor Illmensee's associates[1] who closely participated in his experiments that the professor had falsified the statements of the experiment protocols in order to be ready for a quick publication of a discovery in an international journal. The two close associates had confided in the dean of the Faculty of Sciences, who had sealed these protocols and refused to return them to Professor Illmensee.

Phase II (19 May 1983) was launched by a press release, demonstrating that the affair had taken on a public international aspect at the time. This second phase was conducted according to the "principle of adversarial proceedings", presided over by a leading Geneva barrister; Professor Illmensee was then represented by a barrister. Phase II, in this case, was excessively formalised, as is mentioned in the text of the State Council's report above. This formalisation was necessary but the legal aspect should not have been more important than the establishment of scientific facts and the ethical discussion.

Phase III led to the establishment, on 15 February 1984, that the "conclusions of the report of the international investigation commission do not submit evidence of wrongful breach of Professor Illmensee's duties".

Following this report, the cantonal parliament introduced a complaint procedure in the Law on the University for any member of the university community suspecting a case of scientific fraud. Article 74, paragraph 1, letter p of the Law on the University (LU) states that "any serious and corroborating accusation, by a member of the university community, of serious administrative irregularity or outright scientific fraud may be brought before the rector's office. The rector's office shall initiate an investigation, at the end of which it shall take all necessary measures within its jurisdiction".

Rylander case (2001)

During a press conference held on 29 March 2001, two organisations concerned with the harmful effects of tobacco, OxyGenève and the CIPRET, denounced the existence of links between the tobacco industry and certain researchers from the University of Geneva.

On 30 March 2001, Professor Peter Suter, dean of the Faculty of Medicine, brought a request before the rector to open an investigation on the issue of relationships between the tobacco industry and researchers associated with the University of Geneva, on the presumption of ethical or administrative irregularities.

On 2 April 2001, the rector's office appointed, in accordance with articles 74, paragraph 1, letter i of the Law on the University and 62E to 62G of the implementing regulation of the law, a commission comprised of three deans, Professors Andreas Auer, Beat Bürgenmeier and Jacques Weber. Their mission was to examine the particular situations of three former members of the institution who had had connections with the Philip Morris Company, *i.e.* Professor Ragnar Rylander, Professor Elsa Schmid-Kitsikis and Doctor Barbara Polla, as well as their associates. The mission was required, in particular, to shed light on the facts denounced, identify the financing or funds coming from the tobacco industry, identify the scientific work and research supported by these funds, and ascertain whether the persons implicated were guilty of an infraction of the deontological and ethical rules applicable to the University of Geneva. The purpose of the commission was also to investigate the general situation within the University of Geneva.

The commission handed in its report to the rector's office on 25 June 2001 (Auer *et al.*, 2001), and it was then used to draw up a document published on 6 November 2001, which recalled the scope of the investigation and outlined the conclusions of the rector's office as well as the measures taken or due to be taken at the end of this investigation.

On 19 April 2001, Professor Rylander lodged a penal complaint for libel against the signatories of the press conference of 29 March 2001. By a ruling dated 24 May 2002, the Police Court found the authors of the press conference

guilty of libel (article 173 PC) for writing and distributing a statement in which Professor Rylander was portrayed as a fraud on the cigarette industry's payroll, the main author of an "unprecedented scientific fraud", "secretly employed by Philip Morris USA". Following an appeal, the Penal Court, by judgment of 13 January 2003, upheld only part of the exonerating evidence provided by the authors of the conference, with the exception of that portraying Professor Rylander as the author of an "unprecedented scientific fraud". On 17 April 2003, the Swiss federal Supreme Court ruling on the constitutional complaint filed, annulled the judgment pronounced on 13 January 2003 and sent the case back to the Penal Court for another decision (Tribunal fédéral suisse, 2003). In its judgment of 15 December 2003, the Court of Justice of the canton of Geneva ruled that the authors of the press conference of 29 March 2001 had produced exonerating evidence as to their challenges against Professor Rylander and dismissed all of the professor's claims.

In the Rylander case, phase I of the investigation was not made public; it is simply mentioned in the judgments. It is likely that the two local prevention organisations (OxyGenève and CIPRET) had obtained detailed information on Professor Rylander's collaboration with the Philip Morris Company, within the framework of the claims filed before the US courts and widely published on the Internet. There is no suspicion of collusion officially communicated by associates.

Fact-finding phase II is subdivided into phase IIA and phase IIB. Phase IIA was carried out by the commission made up of the three deans (2 April 2001), who submitted a relatively moderate initial report for Professor Rylander. This report explains the first moderate judgment by the Penal Court on 13 January 2003. Phase IIB was conducted, exceptionally in a case of scientific fraud, almost exclusively before the Swiss courts. From a scientific point of view, the case took a new turn with the appeal before the Federal Supreme Court, concluding on 17 April 2003 in an annulment of the ruling of the Penal Court of 13 January 2003. Another phase IIB was then initiated in the summer of 2003 by a new fact-finding commission presided over by Professor Mauron.

The Mauron commission concluded, in its report dated 6 September 2004 that the "primary grievance against Ragnar Rylander was that he concealed his connections with the tobacco industry, lied about their nature and acted as a falsely independent scientific cover in order to conduct a campaign of misinformation on the risk associated with passive smoking". The report also mentions in its conclusions, that:

The victims, in this case, are:

- The Faculty and University of Geneva, the infrastructures of which were used ill-advisedly and the reputation of which was marred by the actions of Ragnar Rylander.

- The scientific community, deceived by the preparation and outcome of symposia, which were falsified by the tobacco industry and by biased epidemiological studies aiming at unnecessarily prolonging uncertainty and controversy.
- Finally and above all the public, who was deprived of information on the specific toxicity of passive smoking, secretly obtained in the 80s and knowingly concealed when it could have been used to enhance the prevention of tobacco-related pathology. (Mauron *et al.*, 2004)

Phase III of the Rylander case was dealt with legally, which is a rare occurrence in cases of scientific fraud. The Mauron commission, on the other hand, largely exceeded the fact-finding framework in a case of fraud, as it expressly recommended that the University of Geneva prohibit the funding of any scientific research by funds obtained from the tobacco industry, which will be mentioned and discussed in greater detail in Chapter 3 hereafter. In its report, the Mauron commission also recommends that the university authorities take proactive measures to anticipate and control the development of partnerships between the industry and university research, by posing the following question: "How should these partnerships be organised in order to be mutually beneficial while preserving the primary purpose of the university, *i.e.* the unbiased search for scientific truth?" The commission finally advised extending the guidelines on integrity in science to all faculties, which should be subject to specific education. Finally, on the subject of sanctions, the report specifies: "As Professor Rylander is retired, it is not the purpose of this report to propose disciplinary measures".

Doctor X's case, Biochemistry Department (2003)

This case is the first concrete application "by analogy" of the guidelines of the Swiss Academy of Medical Sciences of 23 May 2002 to the University of Geneva, before the implementation of the guidelines of 10 May 2005. As legal claims are pending, this paper shall only tackle phases I and II, but not phase III.

Doctor X is the co-author with Mrs. Y, a doctoral student working under his responsibility and in his laboratory, of an article published in the *EMBO Journal*.

Professor Costa Georgopoulos carried out an in-depth examination of this publication and detected certain gaps and discrepancies. He subsequently interrogated Doctor X and asked him to produce the originals of certain data. Unhappy with the elements provided and explanations received, Professor Costa Georgopoulos recommended that the litigious publication be removed from Mrs. Y's thesis.

As well as the demands made to Doctor X in terms of document production, Professors Linder and Offord asked Doctor X to reiterate the experiments conducted in 1999 in order to validate and confront the results with those published in the contentious article.

On 16 July 2002, Doctor X provided his colleagues with an initial photograph of the Petri dishes. This photograph is manually dated 27 June 1999. By this date, the photograph was supposed to attest to the results of the experiments carried out by Doctor X in 1999, *i.e.* before the publication of the contentious article.

On 23 July 2002, Doctor X submitted a second photograph of Petri dishes automatically dated 18 July 2002 by the device used. The production of this second photograph was supposed to attest to the fact that Doctor X had repeated the experiments, as required by Professors Linder and Offord. In his initial statements, Doctor X claimed that these two photographs were the effective evidence of two different experiments, one carried out in 1999 and the other repeated in 2002.

The investigations conducted into these two photographic plates provided by Doctor X on 16 and 23 July 2002 suggest that, despite the hand-written date appearing on the first photograph, these are really two photographs taken at the same time, *i.e.* mid-July 2002. This is a result, in particular, of an examination made by Professor Pierre Margot from the Lausanne Institute of Scientific Police.

In addition, Doctor X, interrogated later, admitted that the two photographic plates related in fact to the same Petri dish. According to Doctor X, the Petri dish, dating back to 1999, was preserved for three years and photographed again in 2002. However, evidence has now been established that the photograph provided on 16 July 2002 by Doctor X is falsely dated 27 June 1999, having in fact been taken by mid-July 2002. This conduct constitutes scientific fraud, which is why Doctor X's employer has taken administrative measures against him (Tribune de Genève, 2004).

Professor Hwang Woo-suk's case (2005)

At the time this article is being written, the conclusions on the scientific fraud of Professor Hwang Woo-suk have not been entirely disclosed.

However, on the Internet site (Nature, 2005) of the *Nature* journal, a chronology indicates that the Seoul National University delivered its verdict on 10 January 2006, establishing the fraudulent nature of the two *Science* publications. Therefore, on 12 January 2006, the *Science* journal, following this verdict, removed both of Professor Hwang Woo-suk's 2004 and 2005 publications.

Below is an extract of the comment published in the *Revue Médicale Suisse* (Swiss Medical Journal):

> Early last December, we believed that neither Pr. Hwang Woo-suk nor the Seoul authorities would be able to escape the in-depth investigation that they had thus far rejected. This investigation, we wrote, could shed light on the universal or relative nature of the ethical rules regarding donations and voluntary work, consent and conflict of interests, "remuneration" and

> "compensation". Less than a month later, the investigation was led by nine experts appointed by the national university of South Korea and Hwang Woo-suk will begin to pay the price for his conduct, while the co-authors of his publications and the Seoul authorities seem to have been spared for the moment. (Nau, 2006)

The nine investigators initially established that Professor Hwang had not only falsified certain photographic plates but also faked numerical results in order to make his peers believe that he had effectively obtained 11 lines of human embryonic stem cells from cloned human embryos. The research scientist had confessed that he did not inform *Science* of the fact that he had lost, due to contamination, 6 out of the 11 cell lines. However, a doubt remained. This is when Korean investigators established that there were only two, not five, cell lines preserved by freezing. "The conclusions of three laboratories demonstrate that cell lines No. 2 and 3, which needed confirmation with regard to the article of May 2005, do not correspond with patient cells and are in fact fertilised egg cells from the MizMedi hospital," stated Roh Jung-hye, the spokesperson of the investigation commission. "DNA tests revealed that there was no stem cell specific to each person."

Chapter 2. Geneva's legislative provisions on ethical issues

The Law on the University stipulates, in article 3, the ethical principles to be enforced by the university. Below is the content of this article:

Article 3. Ethical principles

1. The duties of university in terms of training and research impose compliance with basic scientific principles and require in particular:
   a) The objective description of natural, social and human phenomena and the search for the laws governing these phenomena.
   b) The objective account of the principal current of thought.
   c) The use of strict critical methods in the discussion of scientific, social, political, philosophical or religious opinions.
   d) The respect of other people's opinions.
2. The university is provided with a commission for academic freedom and an ethics commission attached to the University Council.
3. Each faculty may constitute an ethics commission. (Grand Conseil de la République et canton de Genève [1973])

It should be noted that the Law on the University restricts the scope of the ethics issue to objectivity and critical methods. In this respect, this law is typical of the 1980s. From 2001, there was a certain consensus that not all the rules which must be enforced by the scientific community can be regulated by law; this is why guidelines on integrity help reinforce the legal framework and make it

possible to control practices, establish behavioural rules, define breaches of scientific integrity and specify the order of proceedings in case of denunciation. At the end of the scientific integrity examination procedure, the rector's office may decide to go before a commission made up of three deans, in accordance with article 74, paragraph 1, letter p of the Law on the University, which stipulates that "any serious and corroborating accusation, by a member of the university community, of serious administrative irregularity or outright scientific fraud may be brought before the rector's office. The rector's office shall initiate an investigation, at the end of which it shall take all necessary measures within its jurisdiction."

The close link between the ethics commission and the commission for academic freedom in relation to the Law on the University (in article 3) should also be underlined.

The ethics commission was introduced in the 2003 Law on the University when this law came into force at the same time as a commission for academic freedom. These two commissions already existed in a regulation. They are now both attached to the University Council, in accordance with article 3 of the Law on the University (abovementioned). The purpose of the commission for academic freedom is to establish the list of privately commissioned research operations registered in the university (see article 7, paragraph 3 and article 79, paragraph 2).

Chapter 3. Study of the guidelines of the Swiss Academy of Medical Sciences (23 May 2002) and guidelines of the University of Geneva (10 May 2005)

The increasing awareness of scientific research institutions in the last 30 years has led us to examine the implementation of the guidelines on scientific integrity in the Swiss medical field, followed by similar guidelines applicable to the University of Geneva as a whole. We shall analyse the guidelines of the Swiss Academy of Medical Sciences of 23 May 2002 (SAMS, 2002), which largely inspired those of the University of Geneva (2005a), albeit with significant amendments.[2]

The first question to be asked relates to the purpose of these guidelines. The Swiss Academy of Medical Sciences answers this question in its Preamble (2002, paragraph 2): "Scientific misconduct puts confidence in science as a whole at risk."

The University of Geneva completes the description of the purpose served as follows (2005a, Scope and Objectives of the Guidelines, paragraph 1, number I): "To guarantee integrity in scientific research. This desire is one of the prerequisites of science credibility and justification of the researchers' requirement for freedom."

What is, definitively, the institutional purpose guiding and structuring this very broad movement recalling and implementing the integrity principles of science?

"Confidence in science as a whole" conveys two basic notions that we can explain as follows: confidence on the one hand and the scientific community on the other. Confidence, first of all, must allow several researchers to value the results of research carried out by others. Confidence is perceived, in this sense, as a condition enabling academic independence and freedom with a view to enhanced creativity, unrestricted research and legitimacy of fund allocations. The objective of the scientific community is to progress in the knowledge shared by all of humanity.

At first glance, the definition of this shared confidence may appear surprising because science is based on doubt and no other element of society has so relied for its progress on the ruin and successive disappearance of outdated paradigms. However, a more in-depth analysis reveals that confidence in science is obviously not based on the scientific object itself (which, by definition, is called into question) but on the methods used, on what guides the researchers' actions and the links between researchers and those financing the research. This confidence is lost when there is a breach of certain criteria, such as objectivity or conflict of interest.

In the last 30 years, there have been two types of definition of scientific integrity, which have finally merged to give birth to these guidelines on scientific integrity. The first definition focuses on the connection with truth, objectivity and transparency. In this sense, the Law on the University of 27 May 1973 (article 3, paragraph 1, letter a) seems to perfectly capture this notion, stipulating that "research demands the respect of fundamental principles and notably requires: a) the objective description of natural, social and human phenomena and the search for the laws governing these phenomena". Similarly, the seminar of the Professors Association of the University of Geneva undertook a more convincing approach in 1983 by trying to discuss truth criteria (Buscaglia *et al*., 1983). The following dual definition of these truth criteria by Buscaglia (*ibid*., p. 15) is also in line with this first definition of scientific integrity:

Intersubjective evidence in biology admits two types of proof:

a) Proof by accumulation, mostly used in descriptive subjects (when converging observations accumulate, exceptions become less and less probable). This is a theoretically weak but practically strong criterion.

b) Proof by demonstration, specific to experimental subjects. Validity, in this case, is linked to the quality of a logical demonstration, the experiment of which constitutes the realisation (simulation, predictability). (Buscaglia *et al*., 1983).

The second definition of scientific integrity, characterising the recent movement of the guidelines, points out "the duty of objectivity relative to freedom of research". This is apparent in the guidelines of the University of Geneva of 10 May 2005 (University of Geneva, 2005a). To sum up, the first objectivity criterion addresses the question of science production while the second confidence criterion addresses that of truth circulation.

Chapter 4. Ethics and conflicts of interest

Another crucial point is: what happens when the connection with truth seems hindered by conflicts of interest? Is scientific research, when funded by the armament industry, likely to be less objective than that funded by more "politically correct" sources? Is the research funded by the tobacco industry non-ethical by nature? How can we tackle conflicts of interest in relation to scientific objectivity?

We are now directly broaching the issue of the researchers' academic freedom and, consequently, the need to clarify the conditions of independence relative to a "sponsor". The issue raised is indeed an ethical one, summarised in this proposition: can one be scientifically independent when financially connected? If they want to strive for this independence, researchers or institutions must set out clear-cut rules.

The guidelines of the Swiss Academy of Medical Sciences (ASSM) of 23 May 2002 have embraced this issue of conflict of interest. "If the research project is financed by third-party funds", writes the ASSM, "the extent of the sponsor's influence on this research must be precisely detailed (planning, realisation, evaluation and publication)."

Therefore, the Swiss Academy of Medical Sciences seems to believe that conflicts of interest can be resolved by the transparency of information and not by any preliminary funding limitation or ban.

Conversely, according to the University of Geneva, under the abovementioned influence of the Mauron commission, number 3.2.1 of the guidelines of 10 May 2005 considers the fact of "accepting sources of funding or commissioning that the research institution has previously pointed out as ethically incompatible with the role of the researcher in this institution" as an established breach of scientific integrity. The breach or offence seems to have been already committed although the research process itself has not even begun.

Of course, the funding source can hinder objectivity and independence, as perfectly demonstrated by the Rylander case (existence of an "unprecedented scientific fraud" as stated by the Court), but it is best to mark the boundaries of the sponsor and researchers in terms of transparency, independence and academic freedom. Clarifying everyone's role makes it possible to provide scientific guarantees and restrict the sponsor's influence to funding only.

In this respect, the guidelines of the University of Geneva of 10 May 2005 perfectly fulfil their objective by stipulating (number 3.2.1) that "concealing conflicts of interest, financial arrangements or collaborating procedures could, if disclosed, influence the result of scientific experiments". This paragraph is perfectly sufficient to meet the intended goal, without going so far as condemning by anticipation the funding sources that the institution has previously pointed out as being "ethically incompatible".

Can we decide unequivocally that the tobacco industry (and this industry alone) is unethical? What of the nuclear and armament industries? What is unethical is not the industry in itself, it is the conditions and pressure or influence on the researcher in his domain of research. Regarding the funding of a research project by the tobacco industry, the ethics issue could be called into question if a researcher were financed for research into questions relative to passive smoking, for example; the conflict of interest would clearly be established. However, in other areas, with pre-defined guarantees, a researcher financed by the tobacco industry would no doubt be able to conduct his research independently and objectively. In this case, the idea is to examine the interests at stake and the type of research. Therefore, each case must be tackled according to the domain, type of funding, guarantees provided by the sponsor as to the researcher's freedom and so on.

In 2003, by introducing the ethics and academic freedom commissions in the Law on the University, the legislator felt that the massive increase in third-party funding could result in pressure, or even influence, on scientific research. Third-party funds at the University of Geneva rose from CHF 84 236 350 in 1999 to CHF 106 000 000 in 2005 (University of Geneva, 2005b). How can we assess the influence of external funding on the integrity of research in 2006?

In her report on higher education in Switzerland (Sporn and Aeberli, 2004), Barbara Sporn considers it normal that, given current international competition, universities keep increasing the portion of private financing. She refers, on this subject, to the famous Clark triangle (1983) according to which the organisation of universities can be divided into three entities: the state entity; the academic entity; the market entity. This third entity is bound to grow rapidly. The economist Ernst Buschor stated, during a press conference held in Basel in October 2006 on tomorrow's university, that the private sector should be encouraged to take over university financing, noting that social spending (health and unemployment) were inevitably going to reduce higher education budgets. Therefore everything will combine to increase the share of third-party funding in university budgets.

What will become of scientific integrity in light of this strong increase in third-party funding? It can only be validated if strongly supported within the

institutions with complementary legal measures unfailingly enforced by university management.

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Notes

1. These were Messrs. Duboule and Bürki, quoted in the "Report of 2 September 1985" (Geneva State Council, 1985b).
2. It should be pointed out that the guidelines of the Swiss Academy of Medical Sciences take into account foreign models, in particular the regulations in place in Denmark, England (MRC, 1997; BBSRC, 1999) Germany (DFG, 1998) and North America (ORI, 1997).

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Values, Principles and Integrity: Academic and Professional Standards in UK Higher Education

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This paper is based mainly on responses – nearly 300 – to a web-based survey of academic staff in UK higher education. The survey examined their personal and professional values and their views on the values that should underpin higher education. Their perceptions of current reality in terms of national policy and processes and of institutional management expectations, with examples provided of events that disturbed them, raise questions about the longer term health of higher education as it has been understood. The project was seen as a pilot aiming to provoke debate about how well traditional values and standards "fit" with mass levels of higher education provision, and government emphases on the economic role of higher education. The findings are set in a theoretical context drawing on models by Clark (1983), Becher and Kogan (1992) and the author (McNay, 1995, 2005a).

Mass higher education and managerialism

For the United Kingdom, the most recent, cogent expression of fundamental values came from the National Committee of Inquiry into Higher Education (1997), set up to remove from the 1997 election the issue of funding for the system, given increased levels of participation. The report was not a great manifesto for the incoming New Labour Government, but did have some good elements, including Paragraph 5.39, which claimed, "There are values shared throughout higher education and without which higher education, as we understand it, ***could not exist***" (my emphasis).

Such values were identified as including:

- a commitment to the pursuit of truth;
- a responsibility to share knowledge;
- freedom of thought and expression;
- analysing evidence rigorously and using reasoned argument to reach a conclusion;
- a willingness to listen to alternative views and judge them on their merits;
- taking account of how one's own arguments will be perceived by others;
- a commitment to consider the ethical implications of different findings or practices.

These values align with those of writers such as Leavis (1943) who saw a university as "a focus of humane consciousness amid the pressures and dehumanising complications of the modern world; a centre where, faced with the specialisations and distractions in which human ends lose themselves, intelligence, bringing to bear a mature set of values, should apply itself to the problems of civilisation".

The issue of "dehumanising" was a theme in work I had done on one university. One senior academic commented: "Increasingly the university places emphasis on systems rather than people and much of the humanity and excitement, which I found a feature of the institution when I first came, has been lost."

Survey responses suggest that that view may now be widespread. The importance of the individual person had been recognised by the English Funding Council, as part of a commitment to widening participation and lifelong learning: "We regard delivering, with others, the government's target

for increased participation as the first step in a longer campaign of ***developing bespoke education to meet the needs of individual learners***" (HEFCE, 2003, emphasis added).

But that extract is from a *draft* strategic plan; it did not appear in the final version. Widening participation for the English government became much more aligned with the state's needs for a qualified workforce (DfES, 2003), although the Scots retained a more balanced commitment: "The overarching framework and priorities within which higher education and the higher education sector operate are those of lifelong learning. These seek to achieve personal fulfilment and enterprise; employability and adaptability; active citizenship and social inclusion" (Scottish Executive, 2003).

There is a new vocabulary of "personalisation" (even "customisation") linked to "choice" – another key mantra – but this is still set in a system that is provider driven and product focused with the main customer still being the state through subsidy, and the student as consumer. Higher fees for full time undergraduates from 2006 may affect expectations and levels of satisfaction (Bekhradnia *et al.,* 2006).

The liberal, collegial values of the Dearing Committee, listed above, contrast with the expectations of New Managerialism. Pollitt (1990) argues that New Managerialism can be seen as a generic package of management techniques which include:

- strict financial management and devolved budgetary controls;
- efficient use of resources with an emphasis on productivity;
- extensive use of quantitative performance indicators;
- the development of consumerism and the discipline of the market;
- the manifestation of consumer charters as mechanisms of accountability;
- the creation of a disciplined, flexible workforce, using flexible/ individualised contracts, staff appraisal systems and performance related pay;
- the assertion of managerial control and managers' right to manage.

Within UK higher education, such approaches, and the implicit values that underpin them, derive from the Jarratt Report (CVCP, 1985), which recommended a more executive model of management and decision making for universities. They were embedded in legislation in the Education Acts of 1988 and 1992, which set the governance framework for "modern" universities designated after that time. Their Instrument and Articles of Government make the Senate/Academic Board only *advisory* to the chief executive, with no *authority* over academic policy or strategy except through monitoring procedures at the implementation phase. Recent work on benchmarking of governance for the European Association for Strategic Management of

Universities (ESMU) has shown this approach to be common in several other European countries. It is matched by an approach at system level (national or regional) based on contracts for service delivery, with the state acting as a dominant customer of the set of universities (McNay, 2005b). In Denmark and Finland, recent legislation has introduced external members of governing bodies, as a link to the employment market, and in several countries the executive authority of the rector and his/her team has been formally strengthened relative to the participative committee structure.

Differing degrees of control are exercised along a spectrum identified by McDaniel (1996). One participant in the benchmarking exercise claimed that their institution had "considerable autonomy. The state only approves all course proposals, appoints all staff and allocates most of our funding". This control model may have passed its peak: evidence showed greater freedom being delegated to institutions, though it was two-edged. In one case there was greater financial freedom to operate within a much reduced budget ("we have autonomy to deliver the cuts imposed by the state"); in another the state had recognised that entrepreneurial approaches were better led and managed at devolved level, and there was an increasing awareness that national/regional administrations are not best fitted to controlling international activities that are an increasing feature of many universities. While the ends may be specified, the means to deliver are determined more at a devolved level in a context of "subsidiarity". That concept implies that decisions are best taken closest to where they are made operational.

If (and the condition is not universal) controls are being reduced at input stage, they are being increased at output stage, with increasingly onerous systems of accountability being used to "steer" expectations (Orr, 2004). Neave (1988) and others use the concept of the evaluative state to describe this phenomenon.

If there is some movement to conditioned *institutional* autonomy within previously highly regulated state systems, it seems to be balanced by lesser freedoms for *individuals* as members of the internal communities, with national policies affecting the roles expected of academic staff (Henkel, 2000). In the main, that was a democratic deficit, with rights of "citizens" within the academic community reduced. In the United Kingdom that has been further compounded by academic staff withdrawal from many of the decision-making arenas (Macfarlane, 2005), either because of pressure of other work or because of a view that participation did not influence those with power.

Model frameworks

What is clear within the United Kingdom is that the two-headed state in Clark's model (Clark, 1983) has been increasingly active since the Thatcher project (to "roll back the frontiers of the state") started in 1979. With massification

of provision has come massification of the state and its agencies. Both policy and regulatory functions have increased. They have been couched in the language of the market, with the state as interpreter of market needs, and with some politicians' discourse blaming the consumers for making "wrong" choices. In other cases there has been micro-management of supply through political intervention. The position of academic professionals has increasingly been located within new managerialism – they have to be disciplined and flexible in responding to the market and are managed in a hierarchy, rather than being self-determining with significant professional autonomy (Henkel, 2000).

McNay (1995, 2005a) maps Clark's four elements of higher education systems onto a model of organisation cultures within universities. These are based on four quadrants formed by the axes of the degree of central control over policy *development* and the control over policy *delivery*. They embrace:

- collegium, with a value of freedom, based on Humboldtian concepts of the university;
- bureaucracy, with a value of equity and social justice, linking representative democracy and collective decision making to due process and, increasingly, to data requirements;
- corporation, a power culture, demanding a value of loyalty, with decisions concentrated at the centre, using the bureaucracy as a control service for top management, not a support service for academics and students in the collegium;
- enterprise, to which Clark ascribes a value of competence, and which, in its better manifestations, makes the collegium less of an ivory tower and more conscious of clients – students and others – and costs, and which provides processes for innovation and creativity.

The corporate bureaucracy tends to be driven by *system imperatives*. These include the policy and regulatory functions of the state and its agencies and emanations. Within institutions, this culture tends to adopt strategies perceived as low risk and has features of hierarchic centralism, control, conformity and compliance. Heads of institutions may be more local managers of a national provision than leaders of their academic community. Equally, as one middle manager put it in a recent development programme, heads of unit serve the top management to whom they are *responsible*, not the students and employers to whom they should be *responsive*.

The collegial enterprise is more driven by perceived *service needs* and tends towards allowing devolution, development and diversity. It echoes Clark's (1998) "development periphery". Shattock (2003) claims that it is characteristic of all successful universities. The paradox is that policies aimed at improving quality may be having the opposite effect by being manifest through regulation, and corporate drivers that undermine collegiality, creativity

and enterprise. That is certainly the perception for the Research Assessment Exercise (McNay, 2007) and was one reason for changes in Teaching Quality Assessment. Both of those are bureaucratised peer review processes, which are seen more as quality assurance (or reassurance) for the state as customer than of quality development for students and other clients as consumers/users. Such an effect is evident from comments by survey respondents. Rowland (2004) identifies some consequences: "… there is a lack of confidence in a higher education system that has become obsessed with narrow measures of accountability, standardisation and management control. Under this influence, university life – for students, academic staff and managers and administrators who support their work – has become increasingly fragmented."

That Balkanisation may be the risk of a mass system with extra-large universities, often on several campuses. The pressures for a corporate identity and common processes applied universally across diverse disciplines may run counter to the needs to create small within large and to develop local communities where the sense of identity is preserved and the human dimension is not submerged in the search for economies of scale by standardisation and homogenisation of the student body and the student experience.

We should not be misled by idealised notions of a golden age of universities as idyllic Arcadian academies. McNay (2005c) draws on several writers to show a longstanding concern about the nature of academic communities. Bill Readings (1996) in the United States voiced reservations about idealised visions: "… anyone who has spent time in a University knows that it is not a model community, that few communities are more petty and vicious than University faculties."

Mary Evans, from the United Kingdom, warns against rose tinted nostalgia:

> … it would be possible to embark on a lengthy hymn to the departed university, a world of intellectual conversation, engaged students and limitless indulgence. To do so, as anybody who has worked at a university for any significant period would know, is to depart to the realms of fantasy. Universities in this country [and elsewhere] once admitted fewer students and were almost entirely un-policed by the kind of bureaucratic Rottweilers now snapping at our heels, but they were not necessarily admirable institutions … we cannot easily defend the past, or invoke that past as an attack on the present … what can be done is to suggest that what universities have become is a distortion of the values of the academy. The shift … is not from the very good to the very bad. Rather it is a shift from a collective world in which independent and critical thought was valued, to a collective world in which universities are expected to fulfil not these values but those of the marketplace and the economy … [of] … a very small-minded master: the rational bureaucratic state of the twenty-first century. (Evans, 2004)

That clash of values, and the narrowing of mission to serving the needs of the economy more efficiently (as a previous UK government policy paper had defined the role of higher education) was a recurrent theme in responses to the survey. Becher and Kogan (1992) postulated a thesis that change in higher education provision comes when normative values and operational values are incongruent. The dissonance that this sets up needs to be resolved by greater alignment of the two. Given the unequal distribution of power, there is a danger that the operational values embedded through bureaucratic processes in a corporate control culture will dominate over the normative values of the academic staff. The gap between the two is evident in the survey results. The other risk, using terms from transactional analysis is that a "critical/controlling parent" will provoke an "adaptive child" response when a more mature, adult to adult relationship is needed. The nanny state may be a controller more than a carer, reducing autonomy in public sector professionals and promoting learned dependence.

The survey sample

A web-based survey instrument was established. "Registered practitioners" were notified about the URL through the Higher Education Academy and some of its Learning and Teaching Subject Networks. (The Academy was set up to promote excellence in teaching and to re-balance the esteem of teaching and research.) The respondents would, therefore, be academic staff likely to have a primary interest in teaching, rather than (but not excluding) research – note the high percentage of middle ratings in response to Question 2.8b in Appendix B, – and committed to improving the student learning experience. The returns were "cleaned" and the six responses from outside the United Kingdom removed from analysis. The sample used was 274, dominantly from England, with a 60:40 male:female split, matching total system ratios. Over 80% were from "modern" universities, whose strength is in teaching. Seventy-six per cent had more than ten years' experience within higher education; 12% had over 30 years' experience. The figures on length of service (see Table 1) suggest the sample average was slightly longer than for total academic staff in the system. A follow-up study might research whether there has been an intergenerational shift in values, with newer/younger academics closer to the more instrumental end of the spectrum. That was not immediately evident from the sample returns (but see McNay, 2008). Anonymity was allowed; the majority took advantage of this and a few did not give institutional details, so the figures above are indicative, not exact. Four people did not indicate their sex, and two did not identify length of service. Figures in Table 1 do not, then, allocate them to the two categories, and do not total 100%.

Table 1. **Survey respondents by gender and length of service**
274 respondents: 107 female, 163 male, 4 unknown

	Length of association with higher education (in years)											
	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60
Female	4	30	31	22	8	6	4	1	0	0	0	0
%	3.73	28.0	28.9	20.5	7.47	5.60	3.73	0.93	0	0	0	0
Male	9	21	44	25	16	20	19	6	1	0	1	0
%	5.52	12.8	26.9	15.3	9.81	12.2	11.6	3.68	0.61	0	0.61	0
TOTAL	13	51	76	47	25	27	24	7	1	0	1	0
%	4.74	18.6	27.7	17.1	9.12	9.85	8.75	2.55	0.36	0	0.36	0

Discussion of the data

Appendix A gives a small sample of returns to Part 1 of the questionnaire: respondents' values and views on aims and objectives of higher education. They are representative of the overall sample. There is, not surprisingly, considerable congruence between Questions 1.1 and 1.3: the first is about the principles and objectives that should imbue higher education provision and the values that underpin those; the second is about personal values that academic staff bring to their work. The range covers:

- personal/moral/aesthetic development (the traditional liberal approach, helping students to maturity, to become a full person);
- pursuit of knowledge within a discipline, and the joy of mastery within a domain;
- development of the general powers of the mind (Robbins, 1963);
- contribution to society (a mix of emancipatory, meritocratic and social equity approaches, with strong flavour of Paulo Freire);
- employment/skills/economic benefit.

By contrast, the last dominates the perceptions of government policy in operation:

- instrumental – skills supply for a competitive economy;
- financial – income generation and efficiency: more for less;
- expansion, not wider access.

The language is often robust – "bums on seats", "pass through the door and give me your money", "blame someone else". The first three academic values and aims are nearly invisible in national statements.

Section 1.4, as well as containing assertions of positive experiences and commitments, often despite pressures, does give prominence to factors that make operating to personal normative values difficult, and to the lack of alignment between two sets of values. Reference is made to the pressures of

numbers in mass provision where funding per student has been drastically reduced. There is pressure to push students through, driven by imperatives of finance and published performance indicators. There is scepticism about the culture of accountability, of target setting. The anger and frustration may be directed at senior staff, but is also about government policies for which they are the messengers and mediators into institutional practices. Concerns are also directed at students – their changed attitudes, motivations, expectations and abilities at entry. Those characteristics may have been developed at secondary school level where similar pressures to deliver output in the form of exam passes may have affected the inculcation of lifelong learning habits, displaced by spoon-feeding, coaching and "training for the test". With increased fees in England as from 2006 entry, students may well shift further to see a degree as a commodity, bought to specification and with an expectation that the supplier will deliver.

There is a loss of trust in relation to government and its intentions for higher education, also directed at senior staff who are seen as co-operating, even colluding, in a narrow interpretation of the aims of provision and in the emphasis on statistical indicators. Such indicators risk turning human beings into numbers and the crude figures conceal any meaning below the superficial. They are seen as summative, not indicative of a need to explore that fuller meaning. If the academy was once a conscience and critic for government and society, there now appears to be a cynicism that leads to disengagement from that wider debate and from full membership of the institutional academic community. This reflects a pattern of change in the exercise of citizenship rights and responsibilities in the wider polity as well as universities, where elements of a "bully and blame" culture may have reduced whistle-blowing and "speaking truth to power" – see the responses to Questions 2.1 and 2.2 in Appendix B. It may be worth noting that the view on the loss of the joy of learning, in Question 2.3 in that appendix, was expressed by a government junior minister once responsible for higher education.

Appendix B gives a statistical summary of returns to Part 2 of the survey questionnaire. It is worth emphasising the size of the sample – less than 300 out of 140 000 academic staff – and its self-selected nature. Nevertheless, the distribution of responses to some items is so strongly concentrated that they have validity, if only to provoke debate and to prompt further, fuller work.

One thing that comes through clearly is the gap between espoused policy and policy in practice, between stated aims and their achievement. So, quality assurance regimes are seen to have encouraged an unimaginative view of quality (Question 2.8); the government skills agenda and its incorporation into the higher education curriculum has not produced "work-ready" graduates (Question 2.16); globalisation has not penetrated the curriculum or student consciousness through their higher education experience (Question 2.17) and

the esteem of higher education has not risen following growth in access (Question 2.18). Work by Andrews (2007) supports that conclusion. She found that non-traditional students developed group solidarity to manage their collective dissatisfaction with their experience of institutions. Individual staff were praised for their willingness to see students as individuals, not faces in a big lecture, and to be accessible to give support. This confirms the efforts made by many of them, as indicated in the survey responses. With continuing growth in a mass provision, and continuing tight funding for teaching – much more so than for research – there must be limits to how far these compensatory activities can continue before time and good will are saturated. Staff are committed, but they are frustrated and weary.

A second concern is over standards in a mass provision. Questions 2.5, 2.7, 2.10, 2.12, and 2.19 suggest that pressures lead to admission of weaker students, to a dependency in the teaching-learning relationship that is not developing mature capabilities, and to compromises both on malpractice such as plagiarism and on threshold standards for crucial pass/fail decisions. The third part of the survey is not treated in depth here, but responses gave evidence of these patterns by examples from respondents' experience. Concerns covered the following:

- innovation frustration because of bureaucratic conformity;
- the imbalance in role expectation and reward systems between teaching and research;
- management cultures of control and abuse of power;
- processes and paperwork;
- academic standards at entry and at assessment points;
- student attitudes and behaviour;
- plagiarism – by students and staff.

The issue is, then, not only about academic standards, but about ethical standards and professional behaviour at all levels in the institution. If higher education is to reclaim the moral high ground staked out by Leavis (as mentioned at the beginning of this article), its own integrity must be beyond question.

Conclusion

The argument for greater monitoring of higher education was the increase in public money being spent as a result of massification. In fact, the percentage of gross domestic product spent on higher education in the United Kingdom is currently at the same level as in 1975 – 1.1%, which is below the OECD average (OECD, 2004), with government spend static at 0.8%. The measures introduced appear to have had an effect contrary to their purpose, and may have made

provision less innovative and creative, and possibly of lower quality. That result is, in part, due to the corporate bureaucracy culture in managing institutions, reflecting the approach of government to management of the system. A simple account of perceived gains and losses from the items in Appendix B show that many fundamental elements of higher education have been lost or are at risk (note the Dearing requirement for them recorded early in this article). The expected gains to compensate for this loss of essential elements have not been realised. The creative contribution of individuals to developing diverse student experiences for the diversified range of participants, consequent on massification and a multi-cultural society, has been suppressed in the interests of administrative efficiency. The result may be reduced effectiveness and conditioned excellence, the loss of the human element in mass systems, and the loss of human good as an aim in a society dominated by economic imperatives.

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APPENDIX A

Respondents' Values and Views on Aims and Objectives of Higher Education

Below are ten of the nearly 300 responses from Part 1 of the survey questionnaire. They give a flavour of the raw data as submitted by respondents, and so give their voice directly as part of this debate on values within higher education. Some replies extended to four pages; some were very brief. Those below fall in the middle, and are from people in a range of roles.

The responses are identified by respondent number. They are all from different institutions.

In each case, the text gives responses to the questions as posed in the survey. To avoid repeating those each time, they are listed here.

1.1. Can you state, briefly, what you think ***should be*** the aims and objectives of higher education? Assume you are the Secretary of State after the next election!

1.2. What do you think ***are*** the aims and objectives driving higher education policy and provision as you observe them currently?

1.3. Can you summarise the values, principles and behavioural codes/rules that underpin your view of higher education, given in reply to Question 1.1?

1.4. Is today's reality different? What values, principles, codes of behaviour do you see operating currently in the delivery of higher education?

1.5. Please make any further comments if you wish to expand your answer.

Respondent 4

1.1. To discover and develop the potential of citizens.

1.2. To contribute to knowledge and creativity.

1.3. To develop thinking and practising in specific disciplines.

1.4. To develop citizens to be part of the workforce (NB. I'm not "anti" employability, I do believe it is essential to think about lifelong learning as part of the curriculum – but I think there is too much focus on "get a degree to get a better job").

1.5. Value of education in helping people understand themselves and their potential. Value of engaging intellectually with concepts and ideas as part of this process, and to contribute to new knowledge. All parties (student, institution, lecturer) accepting responsibility for their part in this.

1.6. I think the focus has shifted too much towards seeing students as customers who expect a degree in return for a certain amount of money and effort, and output in terms of employability. I think that is a problem of the Government giving parents, students, etc. this message – I can't blame students for reacting to this.

1.7. There is also the fact that the HE [higher education] picture is changing due to expansion, students working during the semester, etc. – I think that there needs to become more radical thinking about the whole picture – institutions and Government seem to want to deny that so much has inevitably changed. Some more humbler "what are we all doing here? why do we want people in higher ed.? Why do they want to be in higher ed.?" questioning needs to be done on all sides.

Respondent 21

1.1. Social inclusion through the empowerment that the knowledge, skills and processes of education provide. Promoting individuals and groups to reach their potential (academic and social). Research to benefit students and society (in that order).

1.2. Maintaining teaching and research at its current "level" but diminishing unit costs. Shifting the burden of financing HE from State to individual and (to a certain extent) business. Improving the balance of payments through invisible earnings from overseas students.

1.3. Education is too important to disenfranchised people (UK and overseas) to be left to the academics, therefore I support opening up HE. HE should push students as well as pull them and failing/counselling alternatives to struggling students should not be a performance indicator called "wastage". Research matters, but those involved in research must

see their role as primarily in support of teaching and not industry (unless industry pays full costs).

1.4. Yes, reality today revolves around business plans and models without acknowledging that most business plans fail (literally or metaphorically). Energy and talent are wasted in marketing and regulation compliance.

1.5. The main reasons I left the slippery pole of business management 15 years ago were the tyranny of always having to "beat" last week's or last year's figures and the constant struggle for competitive advantage by any means possible, especially cutting costs – now true in education and market driven fees will make it worse.

1.6. I still like working in HE – it's not as brutal as business nor as case critical as the NHS [National Health Service] nor as mind-bogglingly ineffectual as local government. And it's less regulated than schools or FE [further education].

Respondent 25

1.1. To provide the opportunity for those with intellectual ability to develop their learning.

1.2. To meet what are perceived as politically attractive aims. Very wide participation as cheaply as possible.

1.3. That individuals are individuals, and that encouraging students in learning to learn and developing their passion for a subject is the most important gift I can give to them.

1.4. The student codes appear very different – a wish to tick boxes rather than engage in serious (not hard, or boring, but serious) study. Sometimes it is as if they wish to take no responsibility for their own learning.

1.5. It is a pleasure to teach those who appear to have little ability but engage and achieve, but for much of the time I am contributing to teaching those who are devaluing the worth of a degree. Fortunately there are always exceptions.

Respondent 48

1.1. To explore key ideas and disciplines.
To transmit key ideas and disciplines.
To create new ideas.
To provide intellectual frameworks to improve the world.
To develop individual intellectual capacity.
To develop individual autonomy in making assessments of ideas and developments in the world.

1.2. Training the workforce.
Fulfilling statistical targets determined by party political needs.

1.3. Importance of enabling individuals to act and think outside the framework set by firms, government and media (autonomy).
Importance of thinking rigorously within a discipline (rigour).
Importance of seeing limitations and alternatives to a discipline (alternatives).
Importance of seeing the world through other eyes (empathy).
Commitment to improve the world (solidarity).
Respect for other people (respect).

1.4. Conformity.
Greed.
Selfishness.
Commerce.
Compliance.
Superficiality.

Respondent 56

1.1. To foster curiosity, a love of knowledge and learning.
To encourage enthusiasm for an area of study and to make connections between different disciplines.
A sharing of skills and expertise.
To foster creativity and facilitate personal development for both staff and students.

1.2. The minimisation of economic expenditure.
To place as many pressures as possible on academic staff while severely reducing every resource possible.
To appear to aim for social inclusion while reducing the educational experience which is in actuality offered to students.
To insist on research outputs while not providing/enabling a research culture to exist in the first place.
To make everything fit into ridiculously neat categories ("aims and objectives", "learning outcomes", etc.).
To go for quantity over quality, the RAE [Research Assessment Exercise] being symptomatic of this.

1.3. An overall passion and enthusiasm for life, discovery and learning.

1.4. The exact opposite to 1.3 – every attempt possible to stifle much of the enthusiasm. The pleasure and importance of thinking time does not fit into neat bureaucratic categories. The notion of research has now acquired machine-like qualities and is described in mechanistic and dehumanising terms (*e.g.* research-active, research outputs …).

Respondent 88

1.1. To teach people to think independently, creatively and efficiently in whatever discipline they study and to teach them to be able to apply that learning experience to whatever wider challenges they come up against.

1.2. To provide a range of work orientated transferable skills in order to make people more conformist and commercially useful economic units.

1.3. Fundamentally I aim to promote empowerment and confidence in order to permit students to fulfil their potential.
I aim to challenge them to think more deeply, widely and with less bigotry.
I see my duty as equipping them with skills of writing, analysis, research and performance that will enable them to realise these aims and to do the best they can at the University.
I expect them to work with commitment and if possible passion, to respect others, and in return.
I try to offer them my assistance whenever they need it.

1.4. I think many of my colleagues have not dissimilar aims, though they may not frame them in the same rather idealistic terms I know I use here. However, the dominating ethos from government and university hierarchies is so much about numbers, accountability, efficiency and transferable skills that colleagues get ground down and end up just servicing the requirements of the job rather than the students.

1.5. I think the prevailing obsession with accountability, rooted in a fear of litigation and the possibility of loss of opportunities for promotion if one is not seen to be conforming to imposed targets has led to an overwhelming amount of bureaucratic work which gets in the way of academics doing what they are good at, *i.e.* teaching in their areas of expertise.

Respondent 103

1.1. These will differ in emphasis between subjects, with some more training oriented subjects (such as engineering or dentistry) sharing certain aims and objectives with say, Classics or Philosophy, but also having more precisely targeted career-related aims. Underlying all of the subjects taught, however, should be the development of enquiring, critical minds with capacities to develop informed and independent judgements, and an interest in how whatever subject the student is studying responds and contributes to the broader society.

1.2. Utilitarian values which are privileging neat packaging of "learning" over broader educational development of individuals and which define

research only in narrowly quantifiable terms, rather than as something which may contribute in much broader (and frankly, useful) ways to a university's regional community as well.

1.3. When I began as an academic, my approach was informed by some of the mix of humanist and socialist values which were around in the late 60s and early 70s. For me, the product of a working class (Australian) who ended up going to Oxford, my undergraduate and post-graduate days had provided a heady introduction to all sorts of ways of viewing and participating in the world which I had never previously encountered. While the courses I was formally enrolled in demanded a lot of me, the broader atmosphere was one which encouraged challenge and experiment, even play. When I first started as a lecturer, I wanted to encourage such an attitude amongst my own students. We had small enough classes in those days and enough opportunities for extra-curricular work with students, to get to know many of them quite well and nurture their individual interests, while also delivering a demanding curriculum: our approach was informed by a desire to "educate" not "teach" … research was often geared towards work with students or work in the wider community (where I was involved in a lot of activities that related to my subject).

1.4. Very much so. A doubling of student numbers – while our staff numbers have remained the same (and indeed were lower for a while), a quadrupling of the apparatuses of surveillance (of both students and ourselves – through all the various TQA [Teaching Quality Assessments], RAE and other time and motion type exercises), and the greater difficulties faced by students (along with changing perceptions of what education is about) have led to what I would see as a diminution in the time and care that staff are able to invest in the educational experience of the students. While we are perhaps more organised about publishing our research than we once were, I am not sure that the quality of research overall has been enhanced and I think that increasingly research choices are being shaped by the extent to which any particular research idea is able to attract prestigious funding, as opposed to whether it is an interesting idea.

Respondent 178

1.1. Creating an environment in which students and academic staff can learn, expand the boundaries of knowledge, and in which students can be prepared to excel in their chosen occupations after graduation.

1.2. In the UK – to monitor and thereby stifle any chance at creative and intellectual activity; to document and over-bureaucratise every aspect of the learning process so that it loses spontaneity.

1.3. Abstract values relating to the good of society (the nurturing of creativity and non-rationalised intellectual activity that cannot be quantified and scored produces the most positive atmosphere for all members of society).

1.4. Yes. See 1.2.

1.5. I came here two years ago from a state run university system in the US. I am appalled at the over regulation of every aspect of HE and will try to leave as soon as possible. This system is crushing intellectual creativity and people are leaving to escape the over-bureaucratisation that exists in HE (including second marking, external examiners, endless quality assurance exercises, the RAE, etc. – myriad systems that attempt to rationalise complex and unquantifiable aspects of learning and knowledge into numbers and rigid systems).

Respondent 193

1.1. Firstly, there needs to be a distinction between vocational training and skills of higher critical thinking. In theatre and media departments across the country young people think they're being trained for a profession on a course which may make them critical viewers, but not professional operators. Many students on "academic" courses lack the life experience and maturity to make the most of three years' absorption in their academic environment. So it's not about what all the aims should be, but about how different sets of aims and objectives are articulated to what is now a "client group".

1.2. A market place mentality dominates, in aims and objectives and the emergent undergraduate generation. A degree is a strategic attainment facilitating a given career path. The antiquated grading system of first to third creates little distinction – as with A levels, only the best will do – making MAs [Masters of Arts] an increasing necessity.

1.3. A university should be a forum for education, not a factory of vocational learning. A university should be a safe place to risk and fail. On a practical level, we have failed to incorporate any notion of multiple intelligences into the Higher Education system, or indeed the culture at large. (Mostly)

Middle class parental pressure to get "a solid degree" clogs courses up with people who really couldn't care less what degree they are on, and whose skill base would be fulfilled in more vocational and practical training. My ideal: University modelled as a laboratory of society. Whether learning skills for a vocation, or developing high level critical thinking skills, or training as an athlete, a genuine opportunity to take time out to understand, perhaps recognise one's immediate professional experiences, techniques and knowledge, and, if desired, the wider social systems.

1.4. I am (at 24) part of a generation of strategic learners, over-examined since we entered formal education. We are short- to medium-term planners, refusing to take risks for fear of failure. Our lifestyle expectations are high. We are a reflexive, questioning generation on an interpersonal and, perhaps, community level, but don't carry that type of thought through into wider questioning of social systems. Current delivery has not adapted sufficiently to the general type of learner produced by the school system. Much of the teaching I see working in an HE education development centre is delivered as if to focused, willing students while said students sit and sleep. This is nothing new, but should be addressed. To remain independent of the instrumental values enforced upon the school system and so generating these strategic learners, HE needs to demonstrate an independence. It must address the way in which we have learned to learn – strategically.

1.5. Fees have not made students value their higher education as Education – it has only increased this idea that there MUST be tangible return on investment. The root cause may be the education system at large rather than the fee paying itself, but either way, it isn't helping.

Respondent 195

1.1. To provide knowledge and skills to students so that they understand the past, can grow as individuals, can participate as thoughtful members of a dynamic democratic nation and an increasingly global world, and can contribute to their communities (large or small).

1.2. Bureaucracy. Corporate and bureaucratic style control for political reasons over day-to-day and ongoing decision-making by those not actually committed to education or students. Secondary seems to be "making" students into people who can contribute to the economy.

1.3. Students need to be taught to think, to analyse, to consider. They need to be taught how to learn, so that learning becomes a lifelong process. They need to be taught to doubt, to test, to assess. They need to be taught that life is not certain, that there are no hard and fast answers to most

questions, and that our answers often depend on our history, our own beliefs, and our own understanding.

1.4. Very different. Today's values in UK higher education, especially at the UG [undergraduate] level, are based in the somewhat silly notion that there is a knowledge set, a group of facts, which students should learn. In this context, who teaches them those facts doesn't matter; how they "learn" those facts doesn't matter; who assesses their understanding of those facts doesn't matter; how they "learn" those facts doesn't matter; whether they've "tested" those facts, both on the basis for the factual assertions and their understanding of them, doesn't matter. Knowledge is a thing. Give students this thing. Give it to them in this way. Might students, or at least some of them, learn better a different way? Too bad. Teach this way, assess this way.

1.5. Much of what is in place today seems frustratingly to be based on simple historical practice, sometimes obtained from the rhetoric of corporate and business efficiency and training. Students are individuals. They learn in different ways. Yet, they come to university and are handed "knowledge" on a silver platter, spoon fed to them in bite-sized handouts that present complex, potentially controversial issues in simple, easy to understand ways. They are not taught to think, or to question, and many times seem not to be able to engage with the knowledge they are given. Additional depth to knowledge – such as questioning facts – is sad, and is a testament to the overpoliticalisation of higher education in the UK. So long as this holds, students from countries where education is more robust, less "consumer" oriented (where the student is the "consumer" – silly notion, that), where students are expected not only to memorise, but also to think, the UK and UK students will be at a decided disadvantage.

APPENDIX B

Responses to Key Issues

274 questionnaires were submitted: 107 female respondents, 163 male respondents, 4 unknown

Not all respondents replied to all questions

	Question	1	2	3	4	5
		Strong disagreement <—> Strong agreement (percentage of respondent)				
2.1	Higher education has lost its role as conscience and critic of society.	3.64	9.48	14.2	37.5	34.3
2.2	There is a fear of sanctions against those who "speak truth to power", with corporate management approaches verging on a culture of "bully and blame".	2.91	6.93	10.9	35.4	43.4
2.3	The joy of learning has reduced with the focus on job preparation through skills development.	5.10	4.74	12.0	31.0	46.3
2.4	The emphasis within universities is now "more on systems rather than on people, and much of the humanity and excitement has been lost". [Principal Lecturer in a northern university]	2.55	3.28	8.39	28.8	55.8
2.5	There is a risk of supporting students so much that it becomes spoon-feeding not encouraging them to find their own stance.	4.37	10.2	11.3	31.3	41.9
2.6	Research integrity has been compromised: by a mix of pressures to publish, perhaps prematurely, commercial pressures and sponsors' expectations in commissioned projects.	2.18	6.56	19.7	37.5	32.1
2.7	Funding pressures have led to the admission of weaker students without resources being provided for extra support to them.	1.82	5.83	5.47	18.9	67.5
2.8	Quality assurance processes have encouraged low-risk conformity at the expense of innovation, independence and "difference":					
	a) in teaching.	3.28	6.93	11.3	30.6	46.3
	b) in research.	1.09	6.93	35.4	24.8	26.6
2.9	If higher education is to serve the "public good", that has now been redefined as economic competitiveness, and financial prosperity.	4.01	3.64	10.2	25.1	53.6

274 questionnaires were submitted: 107 female respondents, 163 male respondents, 4 unknown *(cont.)*

Not all respondents replied to all questions

	Question	1	2	3	4	5
		Strong disagreement <—> Strong agreement (percentage of respondent)				
2.10	Pressures from performance indicators and formula funding have led to pass/fail decisions being pushed towards leniency to keep pass rates higher and to retain students.	4.74	5.83	12.4	27.7	47.0
2.11	The competitive ethic has reduced co-operation among academics.	4.74	19.3	24.4	30.2	18.6
2.12	The definition and understanding of academic malpractice has changed so as to allow behaviour, previously unacceptable, to be condoned. This is true of behaviour by:					
	a) students.	8.39	14.2	24.4	27.0	23.3
	b) academic staff.	13.8	28.4	30.2	16.0	8.39
2.13	Less effort is now given to imbuing students with ethical awareness and a sense of personal and civic responsibility.	4.74	4.74	26.6	28.8	22.2
2.14	Universities are now more open to their local communities.	4.3	14.9	31.7	37.9	9.48
2.15	Despite all the talk of "dumbing down", the gains from growth of higher education have outweighed the losses.	18.9	23.7	28.1	17.8	9.12
2.16	Graduates are now better prepared for work because of the emphasis on skills development.	17.8	25.1	28.8	21.5	5.47
2.17	Courses now make students more aware of the wider world – Europe and beyond – preparing them for a globalised society.	18.9	28.4	30.6	17.5	2.91
2.18	With nearly half of all young people going in to higher education, the public perception of universities has improved.	21.8	37.2	27.3	9.85	2.55
2.19	Student attitudes and expectations are now more instrumental – they are just chasing qualifications.	4.01	5.10	11.3	38.6	40.1
2.20	Paying fees makes student value higher education more.	32.4	29.1	25.1	8.39	3.28

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Academic Performance, Students' Background and Affirmative Action at a Brazilian University

by

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This paper describes the results of a detailed study relating the performance of undergraduate students admitted to Brazil's State University of Campinas (Unicamp) from 1994 through 1997 and their socioeconomic and educational background. The study is based on a hierarchical model for the relevant variables involved. The main result is that students coming from disadvantaged backgrounds, in both educational and socioeconomic aspects, have a higher relative performance than their complementary group. We report on an affirmative action programme established at Unicamp for undergraduate admissions, partially motivated by those findings, and present evidence from an initial evaluation showing the programme's positive impact. Finally, we comment on the effect this study and the Unicamp programme have had on the present debate about affirmative action access policies in Brazilian higher education institutions.

Introduction

In Brazil, increasing the number of graduates from the public secondary school system who participate in higher education, in particular in public universities, is at the centre of the debate on educational inclusion. The reason is twofold: most public secondary graduates belong to low income families, and both public school graduates and students from low income families are heavily underrepresented in the student bodies of public higher education institutions (HEIs). Recently, the ethnicity of students has also become a central issue, since blacks, *pardos*[1] and native Brazilians are also underrepresented (Martins, 2003).

Besides the equity and formal equality issues of the debate, one issue that is frequently raised against affirmative action policies addressing such inequities – such as quotas for selected groups – is that the policies may end up lowering the academic standards of the student body of HEIs, in particular in the most selective ones. We use the expression affirmative action in a broad sense: affirmative action "occurs when people go out of their way (take positive action) to increase the likelihood of true equality for individuals of differing categories" (Crosby and Cordova, 1996). (For a discussion of many aspects of affirmative action in the United States, see articles in Crosby and VanDeVeer [2000]. An exposition of the situation in Brazil is found in Martins [2003].)

The main objective of this study was to investigate whether there is quantitative evidence in support of policies enlarging the participation of educationally and socioeconomic disadvantaged youth, while preserving the academic principle of merit, when recruiting students at a research university.

We chose the State University of Campinas (Unicamp), part of the State of São Paulo's public higher education system and one of the top research universities in Brazil, as the most appropriate institution for such a study. Unicamp is responsible for about 15% of all scientific output and 10% of all master's/doctor's degrees conferred in the country. Brazil is in the group of countries, together with Argentina, Mexico and South Korea, which contribute up to 2% of all indexed scientific articles of the total world output. Brazilian HEIs confer more than 7 000 doctor's degrees every year (FAPESP, 2005). Unicamp is highly selective, with an average of over 16 candidates per undergraduate position offered each year (COMVEST, 2005). Academic as well

as socioeconomic data on 6 701 students admitted to Unicamp from 1994 through 1997 formed the study database.

The focus of the study was to investigate how a student's educational background, in particular whether he/she had graduated from a public or private secondary school, relates to his/her scholarly performance as undergraduates. We did not consider the race/ethnicity of students, another relevant and much debated issue, since that information is available only for those admitted to Unicamp from 2003 onwards. A future study will take that into account. However, other variables were considered, like gender, family educational and income status, as we will report below.

The results of this study indicate that students coming from a disadvantaged environment, in socioeconomic and educational terms, perform relatively better than those coming from higher socioeconomic and educational strata. We call this phenomenon "educational resilience", adapted from the resilience concept used in infant mortality studies (Wolfson and Rowe, 2001, p. 558). More interestingly, from an educational public policy viewpoint, is that students who came from public schools had a better relative performance than those who had studied at private schools. Methodologically, we used a hierarchical scheme (Victora *et al*., 1997) to build both linear and logistic regression models.

These results were the incentive for establishing affirmative action programmes at Unicamp (benefiting candidates who graduated from public high schools). Recent evidence shows that these programmes do not lower academic standards for recruitment (as shown later in this paper). The policies were implemented for those applying for admission to Unicamp in 2005. We will present the programme and discuss the impact of the adopted policies in terms of enlarging the group of students coming from public high schools. We will also report on a preliminary performance evaluation of that group.

We observe that the debate about the predictive validity of selection criteria of academic performance in higher education has been evident in the United States in recent years. As examples, we refer to the studies by Leonard and Jiang (1999) and by Rothstein (2004), as well as the references provided in those papers.

Technical details related to the present paper, including development and analysis of the statistical model used for this research, as well as databases providing further information, may be found in Dachs and Maia (2006).

Background

Brazil is a medium income developing country in South America, with a per capita gross domestic product (GDP) (PPP)[2] of USD 7 460 in 2004 (World Bank, 2004). It has a population of over 180 million and a territory of about

8.5 million square kilometers. The State of São Paulo has the largest population among the 27 Brazilian states, with about 40 million, almost 22% of the Brazilian population. It is also the richest state, generating 33.4% of the GDP, with a per capita GDP (PPP) of USD 11 190 in 2004. Campinas, where Unicamp is located, has a population of about 1 million and is a centre of high technology development, in particular in the telecommunications sector. Unicamp was founded in 1966 and has been one of the main reasons for the city's technological vocation.

The Brazilian educational system is organised into two main segments: 1) basic education comprised of eight years of "fundamental education" for children aged 7 to 14, and three years of secondary education, known in Brazil as "middle education", for youth aged 15 to 17; 2) higher education. For a discussion of the whole system, see Schwartzman (2004). Accordingly, and following international usage, in this paper secondary education refers to the Brazilian three-year system of "middle education", and high school to institutions at that educational level. Higher education refers to post-secondary education in general.

In 2003, the last year for which complete data is available, only approximately 10% of 18- to 24-year-olds attended Brazilian HEIs. Even though this percentage is low by international standards, it was much lower 15 years ago, before a period of rapid growth in enrollment in recent years (from 1.54 million in 1990 to 4.35 million in 2003). Growth occurred mainly in the private sector. In 2003, enrollment in private colleges and universities represented 70% of the total. Private sector participation in the State of São Paulo was even higher (85% of total enrollment). This contrasts sharply with the situation in basic education, where only 12.5% of the students attended private schools. For details, see Chapter 3 of FAPESP (2005) and its references, as well as Schwartzman (2004).

Quality at fundamental and secondary levels is still a major problem. Brazil ranked 37th for performance on the reading scale among the 40 countries that participated in the OECD's Programme for International Student Assessment in 2000 (OECD, 2004a) and ranked last in the mathematics performance in 2003 (OECD, 2004b). National assessment programmes indicate that the situation is even worse for public schools (Ministry of Education, 2003). In contrast, in higher education, the majority of the best universities are publicly funded and have no tuition or fees (FAPESP, 2005).

Access to higher education depends greatly on the circumstances of a young person's basic education years. Family income, educational and ethnic/racial background, and disparities in quality between the public and private systems of basic education are relevant issues. The percentage of young Brazilians attending college or university who are in the lower income

brackets is much lower than their representation in the general population. The situation is even worse for the black and *pardo* populations.

Among 18- to 24-year-olds in the lowest quintile of per capita income, only 0.83% reached tertiary education, whereas in the upper quintile this figure is 43.7%. For youth who declared themselves as white or yellow, the percentage is 20.4%, but for those considered themselves as black, *pardo* or native Brazilian, it is only 5.3%. Moreover, both income and ethical/racial background have independent effects on the probability of reaching upper education. In the lowest quintile the percentages are 1.9% for whites and yellows and 0.4% for blacks, *pardos* and native Brazilians. In the upper quintile of income per capita these percentages are, respectively, 47.6% and 30.6% (PNAD, 2003).

In particular, the percentage of students in public universities who attended public high schools is generally quite low. In São Paulo, close to 83% of high school graduates studied in the public system, but only about 30% of those enrolled in public universities are from that group.

The figures for Unicamp are similar. Prior to 2005, about 29% of its student body was formed by graduates from the public secondary system. And less than 12% declared themselves as either black or *pardo*, in contrast to about 30% who did so in the general state population. We will see how this situation changed after the introduction of an affirmative action admission programme, described next.

Admission criteria for higher education in Brazil and at Unicamp

The admission of students to colleges and universities in Brazil is usually based exclusively on results of entrance examinations organised by each institution. In some instances the criteria also include the performance in a national examination (ENEM), offered once a year by the Ministry of Education. Unicamp has its own examination and uses the ENEM score as part of the candidate's admission grade.

Except for a few modifications, the entrance examination used by Unicamp today is the same as when the students participating in this study were admitted. ENEM did not exist at the time. In 2003, after a preliminary version of this study was completed, the Academic Senate formed a committee to develop an affirmative action programme to address the imbalance in favour of private school graduates that existed in the student body. It was also to address the relatively low participation of blacks, *pardos* and native Brazilians. Upon the committee's recommendation, the Academic Senate decided to establish a set of actions aimed at these groups of candidates, beginning with the class admitted in 2005 (CONSU, 2004).

Firstly, an existent waiver programme of entrance examination fees[3] was expanded to benefit more than 6 000 low income applicants (of a total of about 50 000). More importantly, applicants who had done their secondary studies in public high schools would have extra points added to their entrance examinations grade. The programme established that 30 points would be added to the final grade, which is standardised with the average at 500 points and each standard mean deviation corresponding to 100 points. If (and this still applies to graduates from public schools) the applicant assessed him/herself as black, *pardo* or native Brazilian, 10 more points were added to his/her grade. We will see later how these figures relate to the findings of this study.

Materials

A total of 7 093 students were admitted to Unicamp in the years 1994-97. Of those, 6 702 were enrolled in four-year (or longer) courses and 391 were enrolled in technological courses. The authors decided not to include this last group in the study, since those courses have quite distinct academic characteristics, which would require a separate treatment. There was one student who was removed from the database, since his records were corrupted, leaving 6 701 students in the group studied. This was considered as of no statistical consequence, since the student was enrolled in a course with a large class which included students of all relevant categories considered (see variables in the next section and also tables in Dachs and Maia [2006]).

When the candidates applied for admission, they had to respond to a questionnaire of close to 120 items, which is the main database for this study. All entrance examination and undergraduate grades of the group are also part of the data used in the research.

Besides the variables that were taken directly from the database, a composite family socioeconomic-educational index was created from the original variables, for the following reason: it is known that information about income is not reliable, especially as the answer to a simple and direct question and, moreover, given by a young person who seldom participates in the economic life of the family. After some prospective investigation, we decided to create a composite family socioeconomic-educational index, using the following variables: participation in the family economic arrangements, parents' education, parents' occupation type and job status, candidates' living arrangements, ownership of a microcomputer. The method used was principal components (Filmer and Pritchet, 1998). The need to use those variables to construct the index explains why later in the model they are not independently relevant. This index was then re-scaled to vary between 0 (low) and 1 (high). For the details and rationale behind the choice of variables used

in the composition of this index, see Dachs and Maia (2006). We will see that this index proved quite relevant to our investigations.

The set of variables selected as relevant was the same throughout the four-year period:

1. Social and economic situation of the candidate's family group:
   - *a)* monthly family income;
   - *b)* microcomputer at home;
   - *c)* family socioeconomic-educational index.
2. Parents' characteristics:
   - *a)* father's occupation;
   - *b)* mother's occupation;
   - *c)* father's job status;
   - *d)* mother's job status;
   - *e)* father's education;
   - *f)* mother's education.
3. Candidate's personal characteristics:
   - *a)* studied in a public or private high school;
   - *b)* period in which studied during secondary education (morning, afternoon, full time, evening);
   - *c)* marital situation;
   - *d)* type of courses in secondary education (general, technical, etc.);
   - *e)* approval of all series in secondary education;
   - *f)* reading habits;
   - *g)* foreign languages spoken;
   - *h)* attendance of preparatory course for entrance examination;
   - *i)* extra-curricular activities in secondary education;
   - *j)* working status;
   - *k)* participation in the family economic arrangements.
4. Variables related to the choice of institution, course and area:
   - *a)* main reason to chose Unicamp;
   - *b)* main reason to chose course;
   - *c)* proposed area of study;
   - *d)* planned living arrangements when arriving at Unicamp;
   - *e)* period of study chosen (full time, evening).

5. Relevant covariates:
   a) sex;
   b) age at admission.
6. Academic variables:
   a) grades in the eight entrance examinations (Portuguese, foreign language, biology, physics, chemistry, mathematics and geography);
   b) final standardised average grade for the entrance examination;
   c) final grade point average at exit;
   d) condition at exit (graduated, expelled, dropped out, still active);
   e) period of exit (length of stay at university);
   f) average grade point average for all students in the course who entered in a given year.

The socioeconomic database and profile of students

The socioeconomic database contains a wealth of information about the candidates' pre-university life. We will present here an overview of the data related to questions relevant to the purposes of this study, selecting from the variables described in the previous section those which were not only statistically significant in the model developed (see next section), but also relevant for the purposes of public policies regarding higher education in Brazil. Thus, as with the items that are not significant, we will not discuss here the type of high school diploma, attendance of preparatory courses, parents' characteristics, age at admission and sex. In this last case, we only mention that about half were male and half female, with a slight preponderance of the former (Dachs and Maia, 2006).

We also refer to Dachs and Maia (2006) for a detailed discussion about the database questions, but one comment is necessary. Some of the questions were not based on internationally accepted formulations. This is particularly true about income, which used brackets related to the national minimum wage, officially established each year. As a reference, minimum wage varied in the range USD 60-USD 100 in the period considered.

Regarding graduation, of the 6 701 students considered, 4 837 (72.2%) had graduated, 1 713 (25.6%) had left the university without a degree and only 151 (2.2%) were still active when this study was developed (early 2005). They were treated as a single group, since the grade point average already included information about academic performance, independently of their degree status. Also, the socioeconomic profile of the students who left without a degree was similar to that of the whole group (Dachs and Maia, 2006). Accordingly, the data presented below concern all 6 701 students.

Of these, 26.8% had attended public high schools and 63.4% had attended private high schools during all three years of study. 0.9% did not answer and the rest attended both private and public schools. We remark that those numbers were typical of Unicamp both before and after the period considered. As an example, in 2004, before the affirmative action programme started, 28% of admitted students had attended public high schools exclusively.

Regarding family income distribution, of the 6 470 students that answered this question (96.6% of the total), 9.8% declared a monthly income of up to five minimum wage units, 48.3% an income in the bracket 5-20 minimum wage units and 41.9% an income above that. The higher income students were, as expected, more present in the most competitive careers; these courses were associated with higher professional status and salaries, examples being Medicine and most Engineering courses. Students in the lower income brackets were more frequently in the Teaching License courses and in some of the Sciences (Dachs and Maia, 2006). The above distribution was in great contrast to the one for the general population at the time, which had a much higher percentage of people in the lower income brackets.

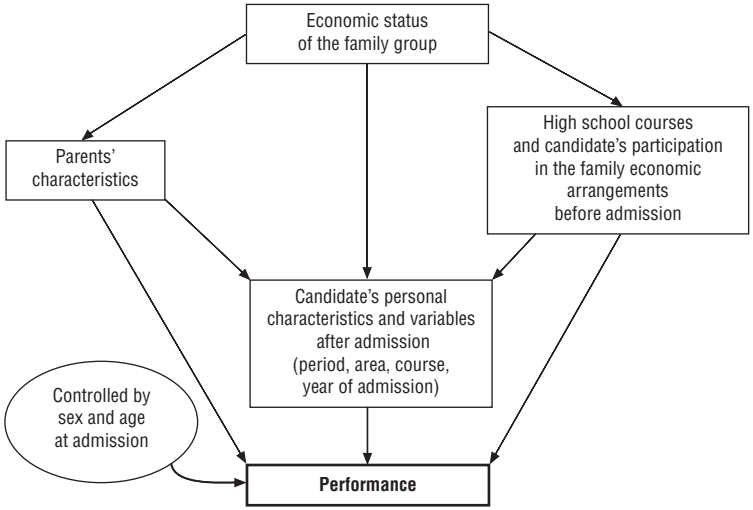
The items related to the students' working status show that the great majority did not work at the time they were admitted. Even though this variable appeared as significant in some cases, we will not discuss it further, since its effects are somewhat mixed (see Table 1).

As stated before, we will omit the data regarding the parents' characteristics, since none of them persisted in the model which we will present in the next section. We only mention that the parents of students at Unicamp in the given period were in the higher levels in both occupational and educational strata when compared to the general population. For example, more than 50% of fathers and 40% of mothers had higher education degrees, in great contrast to the situation for the general population, for which the figures were, and still are, at the present time, less than 10% (PNAD, 2003).

Methods

Based on the availability of variables, and after a preliminary analysis, the authors decided that the chain of determinants of performance at the university could be well represented by the hierarchical framework presented in Figure 1. For a detailed technical discussion of all that will be presented in this section, see Dachs and Maia (2006). The upstream determinants are the economic conditions of the student's family, which are then mediated by the characteristics of the parents and the student him/herself, and then by the choices made in terms of course and arrangements when arriving at the university. Two important covariates that have to be considered are the student's sex and age. As mentioned in the Introduction, the variable race/ethnicity could not be included in this study.

Figure 1. **Hierarchical model of determinants of performance at Unicamp**



Note: Both the hierarchical scheme and the variables used at each level are restricted by the information available in the sociocultural questionnaire applied at the entrance examination.

To compare the performance of students over the four years, we introduced a "relative performance" variable, essentially the difference between normalised ranks at entrance and exit for all courses. The reasons for normalisation and for avoiding using grades were: *a)* grades for admission and during the course vary substantially from one course to another, and *b)* the number of students in each course also varies from over 100 to less than ten in the four years covered. We describe this variable in detail next.

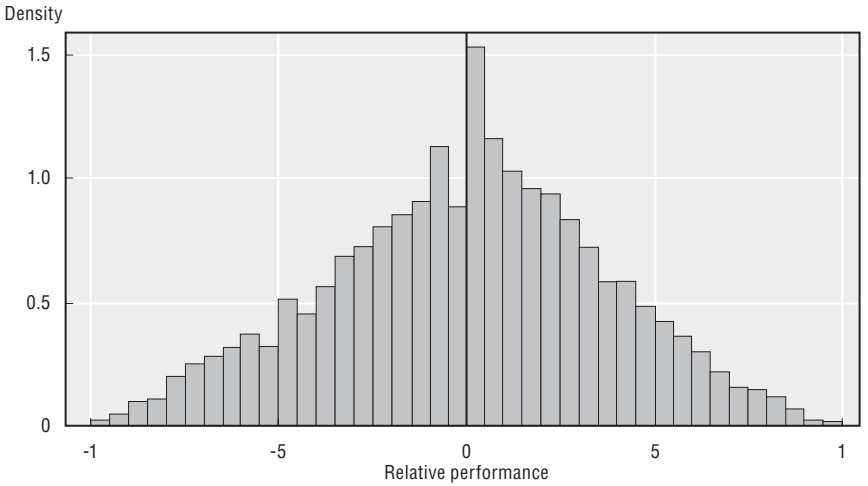
First, each student was assigned two ranks: an "entrance rank" that was 1 for the student with the lowest grade on the entrance examination for a given course (for each year) and so on, using increasing integers up to the student with the highest grade, and a similar "exit rank" using the grade point average of each student upon leaving the university. The exit rank likewise varied between 1 and the number of students in each course (and year).

In order to compare ranks for courses with different numbers of students, we normalised the computed ranks: the "relative ranks" (entrance or exit) are the student's ranks divided by the number of students in the respective course for the given year. The relative ranks for a course in one year vary from $1/n_c$ to 1, where n_c is the number of students in that course in that year. The ranking 1 is highest in both cases.

A student's "relative performance" is thus the difference between the exit relative rank and the entrance relative rank. Therefore, the values of relative performance vary in the range $1/n_c - 1$ and $1\text{-}1/n_c$, essentially between –1 and +1.

The distribution of relative performance is seen in Figure 2.

Figure 2. **The distribution of "relative performance" for all the students in all courses in the four years of study**



The smallest value is –0.979, the largest is 0.978, both the mean and the median are 0, the 25% percentile is –0.244, and the 75% percentile is 0.246.

The distribution is close to normal in the middle but has shorter tails than a normal distribution, since by construction this variable's values are limited to a closed interval.

A linear model was then fitted to relative performance using the variables listed above. All categorical variables were transformed to dummy variables and the model was built in four stages starting with the upper level in the hierarchical scheme shown in Figure 2. This made it possible to discover the paths through which the upstream determinants reach the outcome and to find if the upper variables are still relevant even when the ones in lower levels are introduced in the model.

After fitting the complete model (with all the variables included), a process of backward elimination was performed, this time starting from the lower level of determination. No variables representing parents' characteristics (Level 2) remained in the final model. Likewise, no variables representing the situation after admission (Level 3), like area of study or period of study, remained. The surviving variables and the respective coefficients are presented in Table 1. Comments are in the next section.

The results of the linear model were, in general, corroborated by a logistic model applied to the same set of data. In particular, the association between

Table 1. **Final linear model after the backward elimination process**

Levels and variables	Coefficient	Significance [1]
Level 1. Socioeconomic characteristics		
Socioeconomic index	–0.1846	***
Level 2. Student's characteristics before admittance		
Type of secondary school		
Private	0.0000	
Public	0.0370	***
Type of secondary courses		
General	0.0000	
Technical	0.0491	***
Teaching credential school	0.1142	***
General, humanities	–0.0234	
General, biological sciences	–0.0194	
General, exact sciences	–0.0002	
Supplemental education	0.0538	
Other	0.0640	
Attended preparatory course		
No	0.0000	
Yes	–0.0265	***
Worked before admittance		
No	0.0000	
Part time / occasionally	–0.0445	**
Full time	0.0135	
Economic participation in family group		
Does not work / family pays expenses	0.0000	
Works and family helps financially	0.0562	**
Works and family does not help	0.0357	
Works and helps family financially	0.0786	**
Is economically responsible for family	0.0712	
Academic and extra-curricular characteristics		
Speaks a second language		
No	0.0000	
Yes	–0.0248	**
Period of studies in high school		
Full time	0.0000	
Evening	–0.0285	**
Relevant covariates		
Sex		
Male	0.0000	
Female	0.0903	***
Age	–0.0274	***
Constant	0.6167	***

1. ** significance at the level of 1% *** significance at the level of 0.1% or less.

public high school attendance and higher relative performance remained. For details, see Dachs and Maia (2006).

Educational resilience in higher education

Results in Table 1 show that some of the variables are clearly associated with higher relative performance. It should be noted that, among all variables considered, those remaining in the final stage are the ones through which relative performance is filtered. Further comments about this point are in Dachs and Maia (2006). But it is important to mention that the family socioeconomic-educational index variable, which is in the highest level (Level 1) of the hierarchical model (Figure 1), remains relevant to higher relative performance; this is despite the fact that it has a lower direct impact on relative performance in the final model when compared to its effect in the first stage of the process (only Level 1 variables involved).

We make the following general observation regarding the hierarchical linear model: the coefficient of each significant variable is to be taken independently. Thus, if a female student graduated from a public high school offering teaching credentials, she would be in the group with a coefficient of 0.241, meaning that her relative performance was much higher than the reference group of male students graduating from private high schools providing general courses. Looking back at the relative performance distribution (Figure 2), this means that she would be in the 75 percentile cut-off point, relative to her male colleagues in the reference group.

The following characteristics of candidates for admission are significantly associated with higher relative performance:

1. belonging to the lower tiers of the family socioeconomic-educational index;
2. having graduated from the public secondary system;
3. having studied at technical or teaching credential schools;
4. not having attended preparatory courses;
5. not speaking a second language;
6. having studied full time in high school;
7. being a female;
8. being younger.

Items 1, 2, 3 and 4 are characteristics which, together or separately, indicate some type of "educational resilience" developed by students belonging to those categories. The expression "educational resilience" is used in the sense that disadvantages in earlier periods of life were, somehow, translated later into higher educational performance. Further analytical studies will be necessary to fully develop and justify such a concept.

Concerning those who had studied at technical schools, they had already competed for admittance to those schools, the majority of them public. The technical schools are quite selective and of better quality overall (having higher teachers' salaries, better infrastructure and better trained personnel) than the public high schools offering general courses, as recent results from the national high school exit examination indicate. One should recall that effects are cumulative, *e.g.* if someone had graduated from a public technical school, the effect was higher than if from either a public or a technical school.

Items 5 and 6 are difficult to explain without further analysis. The result indicated by item 7 is not completely unexpected: there are studies showing that women perform below their (academic) abilities in competitive examinations (like SAT) (Leonard and Jiang, 1999).

Being younger (item 8) is the sole individual characteristic that may be seen as somewhat independent of social, educational or economic background, possibly associated with the period of life most appropriate to developing certain abilities and participating in academic life. This also deserves further analysis and study.

The affirmative action programme at Unicamp and public policy consequences

We comment now on the affirmative action programme adopted by Unicamp, both on its formulation in relation to this study's findings and its impact on the selection process and on some preliminary findings regarding performance by those who benefited from the programme. We also comment on the programme's relevance to public policies conceived with the purpose of making higher education more accessible to disadvantaged youth.

The aforementioned Unicamp's Academic Senate Committee, who's mission was to propose affirmative action measures, issued a report in early 2004, which took this study's findings into account in the following way. It observed that, since public school candidates had a higher relative performance than those coming from private schools, then the selection process might act backwards and, by attributing some advantage to that group, compensate for that difference in performance. This idea led to adding 30 extra points to the final grade. The adopted figure of 30 points takes into account two aspects: intrinsic imprecision of the entrance examination grade, estimated at 15 points, and the relative positive performance by the group of public high school graduates assessed by this study. An extra 10 points for blacks, *pardos* and native Brazilians were added since those groups are also historically disadvantaged, so the Academic Senate considered that a similar rationale would apply to them (even though that group had not been considered in the study because of a lack of data regarding their participation in the student group studied).

In terms of its selection impact, in 2005, the first year of the programme's implementation, admission of candidates who had graduated from the public system increased by 15.4% over the average of the previous five years, from 29.6% of the total admitted to 34.1%, with the greater part of that increase occurring in the most selective courses. As an example, 34 out of 110 students admitted to the most selective course, Medicine (with 80 candidates per place), were from that group. This was a threefold increase from the average of the previous ten years. The largest previous figure for that course had been 13 students coming from public high schools. The admission of blacks, *pardos* and native Brazilians also increased by 44.4% over the previous two years; from 10.9% to 15.7% of the whole class. This is still below the estimated figure of 23% of high school graduates that belong to those groups in the State of São Paulo, but is larger than in the other campuses of the state system and shows clear progress in the direction of enlarging that group's participation.

Concerning the fee waiver programme, there was a sharp increase of 76% in the admissions in that group, totaling almost 8% of the whole class admitted in 2005. It should also be mentioned that, among candidates, all targeted groups also increased in participation, a clear indication that the programme had the expected effect of reducing what is known as "self-exclusion", *i.e.* youngsters from disadvantaged groups do not even apply for admission. This phenomenon is common to selective HEIs everywhere, as the conclusions of a recent study about admission of low-income applicants to Harvard show (Avery *et al*., 2006). The complete results about the programme at Unicamp are in the report by the Admissions Committee to the Academic Senate (COMVEST, 2005).

A more recent study, still in development, indicates that the findings of the research reported in this paper are in accordance with the performance of the class admitted in 2005. In fact, a preliminary result is that, even though in only 4 of the 55 undergraduate courses, students coming from the public system had a higher average entrance examination grade than those coming from private high schools; after only one university year, in 31 of these courses the grade point average of students who had graduated from public high schools was, in mean, higher than that of the other group of students. And that occurred throughout the spectrum of selective admission levels of courses. Another indication of academic progress by those students after admission is that the relative performance (same definition as used in this study) was higher for those who had graduated from public high schools in 48 of the 55 courses. This study will be updated every end of school semester, both as an evaluation of the affirmative action programme and as a validation instrument for the results presented in the previous section. The latest version is available electronically (Kleinke, 2007).

Now we comment on the public policy impact of this study and of Unicamp's programme in a larger sense. There are three other important public universities that have adopted similar programmes since Unicamp did so. The largest public university in the country, São Paulo University (USP), a state university with more than 40 000 undergraduate students which is responsible for about 25% of all Brazilian indexed published research, confers more than 2 000 doctor's degrees per year and is also very selective, has approved a programme that will add 3% to the entrance examination grade for students coming from the public system, starting in 2007. The federal universities of Pernambuco and Rio Grande do Norte, two northeastern states, have also adopted similar programmes. The whole system of technological colleges (Fatecs) in São Paulo, comprising 26 campuses, has adopted exactly the same programme as Unicamp since 2005.

Other federal universities have called on Unicamp officials to participate in seminars regarding prospective affirmative action programmes; reaction to the programme presented above and to the results of this study has been positive.

Unicamp officials have also participated in legislative hearings at the national Congress during debates over the adoption of a law to impose a quota system on the federal HEIs, pointing out alternatives (such as Unicamp's system) that avoid quotas, are effective, respect institutional autonomy and maintain merit as an important feature of the selection process.

Conclusions

There is clear indication, based on the results presented above, that students who come from a generally disadvantaged background and are admitted to Unicamp undergraduate courses have a higher (untapped) academic potential, when compared to those belonging to higher pre-university social and educational strata. This is likely associated with the admission's criteria used by Unicamp until 2004 (and also by most Brazilian HEIs), which are based, solely, on examination grades. Also, these findings point to alternatives to those criteria, one of which was developed at Unicamp with positive initial results.

From a public policy point of view, the approach to affirmative action access programmes suggested by this study and adopted by Unicamp (and by other major public HEIs in Brazil) is a clear alternative to the quota systems being adopted by some universities in Brazil, in some cases mandated by legislative measures, for the following reasons: it *respects the academic autonomy of universities*, since each institution would have to develop its own studies and policies; it *develops a new and broader concept of merit,* which includes some of the candidate's background, *preserving the academic standards*

of the student body; and, last but not least, it *effectively broadens the diversity of the student body* to include many candidates with clear academic potential, most of whom would be left out of the traditional recruiting system used in Brazil.

Finally, we believe that this study raises important issues, from both scientific and public policy viewpoints. Such issues might, in Brazil as well as elsewhere, interest those involved in programmes and processes that propose to make access to higher education more democratic, in the sense of increasing the chance that talented individuals coming from disadvantaged backgrounds be admitted to HEIs, especially to the more selective ones.

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Notes

1. *Pardo* is the Portuguese word appearing in official census and university questionnaires, referring to non-black people of mixed ancestry involving blacks. It relates to colour of skin, and has been translated as "grey" or "brown", and is used in self-assessing questions about colour/race/ethnicity, along with "white", "black", "yellow" and native Brazilian. We will use the word *pardo* in this paper, since there is no clear equivalent in English. For a description and discussion about the way race and ethnicity are classified in Brazil, see Travassos and Williams (2004).
2. Purchasing Power Parity. Developed to make possible meaningful comparisons of income and expenses among countries.
3. Entrance examination fees for the class starting in 2006 were around USD 40, about 30% of the official monthly minimum wage.

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Universities, the State and the Market: Changing Patterns of University Governance in Sweden and Beyond

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This paper analyses changes in the governance of universities as a result of growing demands from society as well as of a strong penetration of management ideology into all kinds of institutions. For this purpose the paper uses a theoretical framework focusing on two governance mechanisms in social systems: entry control and performance control. These belong to a larger set of homogenising forces, which the new institutionalists label as 1) coercive, 2) normative and 3) mimetic. Using this theoretical framework to analyse the development of Swedish universities, the author concludes that their governance has undergone a considerable change. Coercive forces that were previously exercised through detailed budgeting have, in recent years, been operating through representation in leading bodies and through the selection of university leaders. This has occurred through a crowding out of normative forces. At the same time there have been strong mimetic forces based on modern management ideas.

Introduction

Institutions of research and higher education are considered as significant organisations for the development and prosperity of countries in the modern society. All over the globe they have increased in number, thereby creating a considerable expansion of academic graduates on all levels and a general scientification of society (Drori *et al.*, 2003). This growth in the number of academic institutions took off in the first centuries of the last millennium, starting with the foundation of universities like those in Cambridge, Padua, Paris and Oxford in the 12th and 13th centuries. Several others followed them in the subsequent centuries, and in the early 19th century Europe counted 140 universities (see Engwall, 1998, p. 83). Today they number several hundred (see Strömholm, 1994).

Although it has occurred that universities have been closed down or merged, they constitute a type of organisation with considerable durability. In 1980, the Carnegie Council on Policy Studies in Higher Education thus pointed out that universities were remarkably numerous among the 66 organisations that existed both in 1530 and 1980. In addition to 62 universities the Council could thus only identify two churches and two national parliaments that could exhibit such a record (Carnegie Council for Policy Studies in Higher Education, 1980, p. 9). This observation made the Council conclude: "Universities in the past have been remarkable for their historic continuity, and we may expect this same characteristic in the future. They have experienced wars, revolutions, depressions, and industrial transformations, and have come out less changed than almost any other segment of their societies" (*ibid.*, p. 9). This statement has certainly been correct in the past, but may perhaps be questioned in the early years of the 21st century.

One important reason for such a questioning is the above-described growth of the field of higher education. The continuous addition of new institutions striving for acknowledgement as universities has implied changes in the role models. On the basis of financial and moral support from politicians and businessmen the traditional universities have been challenged. Some authors – like Gibbons *et al.* (1994) and Nowotny *et al.* (2001) – even point out that the production of knowledge has moved from a mode where academic institutions work along disciplinary lines (Mode 1) to one where they interact actively with the surrounding society (Mode 2). In this process it has been

important for politicians of all colours to support the idea of higher education in their constituency. The reasons for such a stand are easy to understand. With an increasing number of young people going into higher education, politicians realise that lack of institutions dispensing such education may push away their youngsters to other regions and that there are only marginal chances that they return. If, on the other hand, there are academic institutions locally available it may be possible to keep local adolescents and even attract others from other regions. In addition they have of course hopes that universities or university colleges may serve as vehicles for regional growth.

A second significant change in the post-war period has been the expansion of management both in practice and as a field of study. This development is closely associated with the emergence of large – often transnational – corporations, which are no longer led by their owners but by hired managers through complex hierarchies (see Chandler, 1977, 1990). In this way, as Alfred Chandler has coined it, the visible hand of managers has replaced the invisible hand of the market. This in turn has implied that large, particularly United States, corporations have become the role model for companies all over the world. The development in this direction has also been reinforced by an expansion of three significant carriers of management ideas: business schools, consultants and media. All three types of carriers have experienced a formidable expansion in terms of both the number of actors and the scope of their activities (see Sahlin-Andersson and Engwall, 2002). Among these three carriers the business schools have played a particularly important role for the organisations we are focusing on here: universities. These have faced that management (or business studies, business administration, etc.) has become one of the largest – not to say *the* largest – field of study in modern institutions of higher education. As a result there are in the world today plenty of management graduates who are practicing or spreading modern management.

The two circumstances mentioned above appear to have had significant effects on the working conditions of universities. The gospel for governing bodies has become "change". Like banks in the 1980s were supposed to undergo a change from old-fashioned museum type institutions (see, for example, Engwall, 1997), universities are today in many quarters expected to become modern and to act in the same way as corporations. In this process of change politicians seem to feel that they have to do the job, since universities themselves, in their view, are so conservative. An often-told joke on universities and change is thus: "To change a university is like moving a graveyard, you do not get much support from the inside!"

The described view of conservative universities and of the need for outsiders to bring about change neglects, however, that trust and reputation is one of the most significant assets of universities. One of their main tasks is to

perform a critical examination of research findings and candidates on all levels (students as well as persons who are up for promotion) by using stable rules that are trusted by outsiders as well as insiders. It is through this process that universities can separate speculations from well-grounded scientific findings and promote by competence rather than nepotism. It is also on this process that the external trust in universities is founded.

In addition, the eagerness to introduce change from the outside neglects the fact that universities also have another role, which is fundamentally opposite to the one of following the established rules, *i.e.* bringing about innovation. In order to live up to this role universities are expected to break the older rules, to find radically new theories, models or way of thinking. In the words of Thomas S. Kuhn (1962) they are part of a system in which normal science at certain occasions is challenged through scientific revolutions. And, these are happening in an international scientific community, where there is much activity from the insiders.

In the light of the presented circumstances the present paper will discuss forces that are changing university governance. The following section will deal with two significant features for the governance of institutions: entry control and performance control. A subsequent section will discuss three types of pressures for uniformity. The reasoning in these two sections will then be illustrated by evidence from Sweden before the concluding discussion.

Pressures for uniformity

Entry control and performance control

In the past decade it has become increasingly frequent in management studies and in practice to put issues of corporate governance on the agenda. The basic problem addressed is what is called the principal-agency problem. The literature on this problem (see, for example, Alchian and Demsetz, 1972; Fama, 1980; Jensen and Meckling, 1976) is based on the observation that owners (principals) face a control problem, as they no longer can manage their firms themselves. When they have to hire external executives (agents) they may risk that these agents do not manage their firm in the interest of the principals but instead in their own interest. Scandals in the United States (Enron, Worldcom, etc.) and Europe (ABB, Ahold, Parmalat, Skandia, etc.) provide evidence that fears of this kind are not unjustified.

Corporate governance is not only an issue between principals and agents, however. The question of how different institutions live up to various kinds of rules of behaviour is also a problem for the state. These rules concern in principle two issues of control: entry and performance, something that varies between different kinds of institutions. For some, control of entry is relatively low, for others it is extremely high. In the same way the performance control

of states varies considerably between different organisational fields. In order to demonstrate these differences a simple distinction can be made between two levels of such control – low and high – leading to four typical cases (see Table 1). The case of low entry control and low performance control can be exemplified by the private company: the establishment of new companies is one of the key characteristics of market dynamics and in terms of the performance of companies it is mainly left to the owners to decide. However, the more external stakeholders are involved in the company – as it is going public – the more external performance control it has to face (the lower left corner of the matrix). This is in contrast to the case of the self-regulating profession (physicians, lawyers, dentists, auditors, etc.; the upper right corner), for which the entry control is highly regulated by the state while the performance control is mainly left to the profession itself. The remaining case – here labelled as "government guilds"– constitutes the case of high control both with respect to entry and performance. European universities have for quite some time belonged to this category. This contrasts sharply with the medieval universities, which existed in an environment with low entry and low performance control. When professors became dissatisfied with the conditions at one location they simply took their students to a new place and founded a new university. (See Engwall and Morgan, 1999).

Table 1. **Entry and performance control**

	Low entry control	*High entry control*
Low performance control	Private company	Self-regulating profession
High performance control	Public company	Government guild

Source: Engwall and Morgan (1999).

The high entry and performance control of universities are of course a result of the fact that states have increasingly taken part in the financing of universities. It is also an effect of the need for academic institutions to be legitimised by receiving authorisation to grant examinations. In relation to this control the outsiders tend to be eager to be admitted, while the insiders – particularly those newly admitted – tend to support a strict such control (for examples, see Engwall, 1992, Chapter 1-2). At the same time it should be noted that the label "university" is not protected in the same way as the label "bank": in order to start the latter type of institution a charter is required, while anyone can use "university" in the name of an institution. This has been particularly manifested in the past decade in what is called corporate universities (Crainer and Dearlove, 1999).

As far as the performance control is concerned it was for a long time primarily left to professors. They were considered to be the experts and were

trusted for their competence. Needless to say, in many countries the control was exercised through the allocation of resources in a detailed way from ministries of education to individual institutions. As the system expanded and overall budgeting became fashionable, states felt new needs to control the performance of universities. In some countries like Sweden the number of students accepted and their performance in terms examination were adopted as decisive factors for the allocation of resources. This in turn created another problem of performance control, since the contents of higher education are not given. Suspicions thus appeared that academic teachers would be pushed by their administrators to pass students at lower standards than before in order to avoid budget problems. As a result, in order to determine whether standards were held or not, different kinds of evaluation exercises emerged, a development that is part of what Power (1997) labels "the audit society".

The two mechanisms now referred to both constitute significant forces leading to uniformity. The state acts as a gatekeeper, thereby controlling that entering institutions live up to certain standards, but also as auditors to control that those admitted reach the standards they require. In this way states employ similar strategies as employers, *i.e.* they hire people who in their view will fit into their organisation and they then socialise them so that they will fit even better. However, as we shall see in the following section these forces of uniformity belong to a larger set of such forces.

Coercive, normative and mimetic forces

The entry and performance control belong to a class of forces for uniformity that DiMaggio and Powell (1983) label as *coercive forces*, *i.e.* forces exercised by law, regulation and other formal rules. In addition to these forces these authors also point to the existence of *normative forces*, *i.e.* norms that are created in a professional field, and *mimetic forces*, which imply that actors in a field follow the behaviour of leading and visible actors.

As far as the *coercive forces* are concerned, governments have tended in recent decades to extend their performance control to include the presence of their representatives in governing bodies of universities. One reason for this is the above-mentioned view that universities constitute significant actors for growth and prosperity. Another reason is the expansion of the system, which has made it impossible for the state to exercise central control over university budgets and appointments.

The coercive forces influencing universities also have an international dimension. This is accomplished through the interaction between politicians who learn from each other at meetings and who develop international standards between them. One such example in Europe is the Bologna Process, which means that all universities within the European Union are likely to

adapt the same structure in their higher education, *i.e.* three years for undergraduate studies, two years for graduate studies and three years for doctoral studies. Needless to say, this project has been inspired to some extent by the system prevailing in the United States, which has indeed become a role model for Europeans.

As far as the other two forces of uniformity are concerned, the *normative forces* have traditionally been predominant in the academic world. The system is fundamentally based on the idea that peers are making the evaluations of candidates for faculty positions, of submitted manuscripts, of candidates for promotion, etc. It has also been the well-established practice that peers elect university leaders such as department heads, deans and vice-chancellors.

A more recent feature of normative forces has been systems of accreditation, *i.e.* structures that imply that organisations within a particular field of study invite institutions to apply for an assessment that they meet certain standards. This type of quality evaluation also emanates from the United States, where it has been in operation since the beginning of the 20th century. In Europe it is particularly in the field of management education that systems of this kind have been developed, *e.g.* those offered by EFMD (European Foundation for Management Development) and the Association of MBAs. They all imply that the institutions that are up for assessment write self-evaluation reports and that review teams subsequently visit them. These offer normative forces for uniformity through participating peers but also mimetic forces through the representation of university administrators and representatives from the business world. (See Engwall, 2003; Hedmo, 2004).

The *mimetic forces*, finally, occur as a result of interaction among university leaders. Significant for these transfers of role models are different kinds of conferences organised by professional associations within various disciplines. Other important arenas are transnational organisations of universities, which of course also organise conferences. Examples of these are the Coimbra Group (with long-established multidisciplinary universities in Europe as members; *www.coimbra-group.be*), UNICA (with capital universities in Europe as members; *www.ulb.ac.be/unica*), and the League of World Universities (with 47 urban universities as members; *www.nyu.edu/rectors*). In addition, there are also organisations particularly devoted to university management like the Centre for Higher Education Policy Studies in the Netherlands and the Higher Education Policy Institute in the United Kingdom, also providing opportunities for the dissemination of ideas implying new approaches to university management. Last but not least the OECD constitutes a significant arena for mimetic pressures.

On top of the organisations now mentioned it is also important to point out that the media have become actors playing an increasingly significant role

for the provision of mimetic pressures. The most obvious expression of this phenomenon is the appearance of rankings of institutions for higher education. Like accreditation this is a trend brought to Europe from the United States. It is widely spread, in particular in the area of management education, for which *Business Week*, the *Financial Times* and *The Wall Street Journal* provide regular rankings of various kinds. However, there are also a number of rankings for whole universities. Shanghai Jiao Tong University's Institute of Higher Education (*http://ed.sjtu.edu.cn*) thus offers a ranking list for universities all over the world, while *Asiaweek* (*www.asiaweek.com*) limits the ranking to Asia, and *Maclean's* (*www.macleans.ca*) to Canada. Other examples that could be mentioned – particularly for the United States – are numerous.

Through the rankings we can anticipate that highly ranked institutions provide role models for those that are not highly ranked or not ranked at all. The latter are likely to strive for the attributes and the behaviour of the top institutions. In so doing we can expect them to pay particular attention to the criteria used in the ranking exercises. This in turn is likely to lead to uniformity. (See Engwall, 2003; Wedlin, 2006).

We can thus conclude that universities generally are under pressure towards uniformity through formal legal rules, professional norms and imitation. Historically, professional norms have been the most significant governing mechanism within a rather strict legal framework. In the latter part of the last century the legal framework has been loosened up in many countries permitting universities to adopt a more flexible market-oriented approach. As a result the strong position of professional norms in universities has been challenged. Governments, with considerable support from the business world, now want to run universities more like corporations. This in turn implies that they, as principal resource providers, are keen to control the performance of the universities and their professors more directly through, among other things, representation on decision-making bodies. As a result university leaders have been facing a higher degree of uncertainty, which has reinforced imitation. In other words, when the rules of the game are not obvious, it is natural to look at dominant other players for help (see Engwall, 1994).

The Swedish case

In order to illustrate the above reasoning this section will present some evidence from Sweden. The account will first review the development of higher education institutions for entry control. Then the changing character of the performance control will be analysed with particular reference to the external representation in decision-making bodies and the recruitment of vice-chancellors.

Entry control

For many centuries Sweden had only two universities: Uppsala University and Lund University founded in 1477 and 1668, respectively. On private initiative, university colleges were created in the latter part of the 19th century in the capital Stockholm (1878) and the merchant centre Gothenburg (1891). In the mid-20th century (1960 and 1954) these two institutions became state universities.

A fifth university was founded in 1965 in Umeå in northern Sweden. This foundation was followed by the creation of branches to the universities in the late 1960s in Örebro (Uppsala), Växjö (Lund), Linköping (Stockholm), Karlstad (Gothenburg) and Sundsvall (Umeå). Eventually, Linköping was upgraded to university status in 1975 and the other branches were turned into independent university colleges. In 1997, the latter also applied for university status. In a peer review evaluation only Karlstad got an approval (Högskoleverkets, 1998). Nevertheless, the government decided in 1999 to make all but Sundsvall into universities, and for the rejected university college university status was granted in 2005. Thus presently Sweden has ten universities.

In addition to these institutions, Sweden also has six professional schools in the fields of agriculture, management, medicine and technology. They were originally not granted university status but acquired it in the course of time. They are the Karolinska Institute (founded in 1810, entitled to give examinations in 1861), the Royal Institute of Technology (founded in 1827, upgraded to academic status in 1877), Chalmer's Institute of Technology (founded in 1829, given full academic status in 1937), the Stockholm School of Economics (1909), the Luleå Institute of Technology (founded in 1971, upgraded in 1996) and the Swedish University of Agricultural Sciences (1977 created by a merger of several other institutions (Nationalencyklopedien, 2000). They are not multidisciplinary as the others but have the same rights to appoint professors and to run doctoral programmes. Adding these to the 10 universities, Sweden thus has 16 institutions with university status. Furthermore, the regionalisation mentioned above has in the latter part of the 20th century brought about 14 additional regional university colleges throughout Sweden. In addition there are 10 colleges specialising in artistic performance and teacher's training, all located in Stockholm.

Thus, all in all the Swedish system of higher education today contains 10 universities, 6 specialised schools with university status, 14 universities colleges, and 10 specialised colleges, *i.e.* in total 40 institutions. They basically share the same governing principles in terms of resource allocation and government involvement. A major difference between them, however, is that the 16 institutions with university status receive government funding for research and research education.

Performance control

As noted in the previous section the expansion of the Swedish system of higher education occurred mainly after the 1950s. It is also after that decade that major changes in the governance system have taken place: 1969, 1977 and 1993. Under the system created by the two first-mentioned changes, the state had a considerable control over universities and university colleges. The government took detailed decisions on resources and appointments. There was a central agency for higher education that co-ordinated the activities of the various institutions. This agency even decided on the design of various educational programmes. To a large degree the control was thus based on standardisation of the delivery of education. As a result, the principle officially adopted was that all programmes irrespective of where they were delivered had the same quality.

The reform brought about in 1993 implied a radical change from the earlier centralised governance. The then non-socialist government decided to increase the freedom of education and research from the influence of the state. The changes implied that the earlier detailed regulation of the organisation of institutions for higher education was abolished. The only structural principles imposed by statute were that they must have a vice-chancellor, a board and faculty boards. All other organisational solutions were left to the institutions themselves. Simultaneously, the system based upon nationally standardised educational programmes was abandoned and the central agency for higher education (*Universitets-och Högskoleämbetet*) was closed down. In order to fulfil some of the service tasks of this agency a new organisation with an ancillary status was founded (*Verket för Högskoleservice*). Since performance evaluation was considered important the government also created another small agency for quality control (*Kanslersämbetet*). In addition, professors were no longer to be appointed by government (Tersmeden, 2001). However, in order to protect the integrity of the professors, the earlier letters of appointment were replaced by special rules regarding their job security. The Social Democratic government abolished these rules in 1999.

After the elections in 1994 a Social Democratic government came into power and it decided to move back to a closer control over universities and university colleges. A central agency for higher education (*Högskoleverket*) was created with the task of evaluating performance in higher education. A pending principle proposed by the earlier government to create a bonus system based on quality indicators for higher education and research was abolished. Instead the new government decided to appoint a certain number of external members on the boards of the institutions for higher education. In 1998, it was even decided that the chairman of the board should no longer be the vice-chancellor but a person appointed by the government (Tersmeden, 2001; Högskoleverket, 2000).

This short survey of the principles for governance of Swedish academic institutions can be summarised as a shift from hierarchy to market and back to hierarchy. The system before 1993 was indeed one with strong central control. As already pointed out such a centralised system was difficult to operate as both the number of institutions for higher education and the enrolment of students significantly increased in number. In this situation the present approach adopted for university governance in Sweden exhibits a mixture of the forces promoting uniformity as discussed above. On the output side a quality control programme with the ambition to evaluate all educational programmes during a six-year period is a clear coercive force on the national level reinforcing uniform behaviour within various disciplines. Since these evaluations are peer reviews they also provide normative forces for uniformity.

On the input side the national system for resource allocation is a strong coercive force since it embodies the rules for the amount of resources provided per student, the desired number of passed examinations, and the resources for research and research education. On the institutional level, although the normative force is made effective through the bargaining between representatives of various disciplines, further coercive forces have been operating through the board members appointed by government. Some of these are also providing a mimetic force through their tendency to compare universities with private companies and the way they are operating.

Change in university board chairmanship

A more explicit illustration of the described changes can be obtained by focusing on the decision not to have the vice-chancellor as the chairperson of the boards of universities and university colleges, something that can be considered as a shift from normative to coercive and mimetic forces. Limiting the analysis to the 16 universities and the 14 university colleges – thus excluding the colleges for the performing arts and teacher's training – we first analysed the background of the chairpersons of the boards appointed for the period 2004-06 and those appointed for the preceding period. We found that those appointed for the mentioned three-year period had a more manifest political background. While 14 of the earlier chairpersons were associated with political parties, 18 of the new chairs had such links. The increase was particularly noticeable for persons associated with the government party, for which there was an increase from 10 to 14 chairs out of 30. A comparison of the career of the newly appointed chairs also shows that they had made their way through the political arena to a greater extent than their predecessors: 16 out of 30 in comparison to 11 out of 30. This change occurred at the expense of those with an academic background (three) and a business career (two).

Among the new chairpersons with a political background earlier positions as cabinet minister or under-secretary of state were particularly common. There were thus two former ministers of finance, two former ministers of industry and one former minister of justice. One of the former ministers of industry was earlier under-secretary of state in the ministry of justice, and was at the time of the appointment national police commissioner. Law and order was also represented by a former director-general of first the National Prisons and Probation Administration and then the National Customs Administration. Of the former under-secretaries one had been serving in the Ministry of Education.

The people from trade and industry without explicit political affiliation had their experience from top positions in two banks, two car manufacturers, two co-operative movements, a trade union, a pharmaceutical company and a bridge consortium. One of the former bank chief executive officers had a PhD from the Stockholm School of Economics. Among the five academics three were former vice-chancellors of an institute of technology and two university colleges, respectively. The additional two had the competence of reader (docent).

All in all we can thus conclude that the normative forces in the form of chairpersons with academic background were reduced. Instead there was an increase in the coercive and mimetic forces. It is particularly worth noting that the links to government became more developed. What kind of effects these changes had on the governance of universities is of course not easy to establish. However, the recruitment of vice-chancellors may be an indication of such effects and will therefore be our next object for analysis.

Recruitment of vice-chancellors

Traditionally vice-chancellors of the Swedish universities have, as mentioned above, been recruited through a system heavily based on normative forces: peers have elected their leaders. After an elaborated process a candidate has been put forward to the government for appointment. With the changes in the composition of university boards there were several indications that the boards and particularly the chairpersons took an active part in the recruitment process. A first such case occurred at Umeå University in 1999 as the board of the university proposed to the government and got appointed another internal candidate than the one winning the peer nomination. However, subsequently it became increasingly common that university boards engaged search consultants in order to find external candidates for the top position of their institution. These circumstances point to an ambition to break the earlier system based on normative forces in favour of one more based upon coercive and mimetic forces. Thus it cannot be excluded that university boards wished to have leaders who were fitting better

to political and business criteria than to academic ones. Again, whether this is true cannot of course be established with certainty. However, there seems to be some support for this idea, since the number of externally recruited vice-chancellors is increasing.

Among the 11 institutions having university status before 1995 only two of the vice-chancellors in office in the early 1990s had been externally recruited. They were recruited to one of the younger universities (Linköping) and a specialised institution (the Swedish University of Agricultural Sciences). In the period 1995-2005 the number of external recruitments in the same group had increased to five, among which were also two older universities (Gothenburg and Stockholm). At the second oldest university (Lund) a search consultant was used and external candidates were considered as the former vice-chancellor resigned at the end of 2002. However, in the end an internal candidate was selected. A similar pattern could be observed at Umeå University in 2005. As far as the oldest university (Uppsala) is concerned external advice was used in the selection process in 2005 to test the leadership qualities of the short-listed candidates. In the end an internal candidate was proposed to the government.

The move towards new recruitment patterns now described can be seen as a mimetic behaviour in relation to the business world, since, although there are exceptions, it has become fashionable to recruit externally by using search consultants. However, the new recruitment patterns can also be seen as a mimetic behaviour among academic institutions in a direction opposite to the one normally expected: the transfer of behaviour has gone from the less prestigious institutions (the university colleges) to the more prestigious ones (the universities). This is the case since university colleges have almost always recruited externally mainly as a result of their lack of internal candidates with academic prestige. Among the 5 new universities and the 14 university colleges only one recruitment (Karlstad) had been made internally. In the recruitments until the end of 2005 all the new universities and all the university colleges but one (Södertörn) recruited external candidates.

The new recruitment patterns appear to have created a career track among vice-chancellors. Out of those appointed until the end of 2005 there were thus three – among them the then vice-chancellor of Gothenburg University – who had held the same position at another Swedish institution. In addition the vast majority of the other external candidates came from administrative positions at other universities and university colleges. Exceptions were the recruitment of the under-secretary in office in the Ministry of Education as vice-chancellor at the University College of Kalmar and another person with government experience to the University College of Jönköping. Although both of them had a PhD, neither had been affiliated to an academic institution for the last decade.

It could be expected that the efforts to broaden the recruitment base for vice-chancellors and the stronger links to the political sphere with its strong plea for equality should result in a radical change towards a more equal sex distribution among university leaders. However, this does not seem to be the case: among vice-chancellors appointed until the end of 2005 four of five were still men. This may be a result of an unequal, although less skewed, distribution among university chairpersons: two out of three were men.

Concluding remarks

The basic conclusion of the analysis is thus that the governance of Swedish universities has undergone a considerable change. Coercive forces that were earlier exercised through detailed budgeting are now operating through representation in their leading bodies and through the selection of university leaders. This is occurring through a crowding out of normative forces. At the same time there are strong mimetic forces based on modern management ideas. Similar developments can also be observed in other European countries. Denmark, for instance, in 2003 passed a new university law implying an external majority in university boards. However, it should be noted that in the Danish system the board itself elects the chairperson among the external members (Danish Parliament, 2003, para. 11) and that the law states that the vice-chancellor should be "a recognised researcher within one of the disciplines of the university and have knowledge about the educational sector" and "should have experience of management and organisation of research settings" (*ibid*., para. 14) (translation from Danish).

The Swedish system analysed here has recently changed again after a new non-Socialist government took office in September 2006. Already in his statement of the incoming government on 6 October 2006, Prime Minister Fredrik Reinfeldt expressed the will to depoliticise the boards of the universities and colleges, *i.e.* decrease the coercive forces. This was later materialised in the Government Bill 2006/07:43, giving universities and colleges the right to propose their board members to the government (Swedish Parliament, 2006/07). However one should keep in mind that the new government is more market oriented than the previous one. This in turn may lead to increasing mimetic pressures.

Implications

The implications of the reasoning above are that universities are becoming more like corporations. They are increasingly governed by the state (coercive forces) and the business world (mimetic forces) instead of academic values (normative forces). Government on all levels – state, regional and local – have become more apt to intervene in university governance and the linking

of universities and university colleges to an external world. Institutions for higher education and research increasingly employ business practice in the form of management accounting systems, strategic documents, marketing of services and organisational principles. This movement is likely to be reinforced if universities and university colleges are becoming more dependent on funding through the market place. Such a development can also be observed in several countries. Among them the United States is the frontrunner by having universities financed through tuition fees and endowments for a long time. A similar development can be envisaged in European countries: it is already today a hot issue in a number of countries, for instance in the United Kingdom, whether or not fees should be charged in higher education. Despite the considerable resistance against such fees it is likely that they will be introduced in a not too distant future in most countries, as tax bases are reduced and the demand for public spending on other purposes, particularly geriatric care, increases. Altogether we could then expect the forces working in the direction of a business orientation to be intensified. (See Bok, 2003; Gould, 2003).

Parallel to the development just described corporations are undergoing a change that moves them towards universities. The knowledge component in modern products is continuously growing and research and development is becoming crucial activities in most companies (see, for instance, Prusak, 1997). There is also a tendency for business activities to be organised to an increasing extent in the form of projects (see, for example, Ekstedt *et al*., 1999), *i.e.* the classical form of university organisation. Companies are also taking part in educational activities through corporate universities (Crainer and Dearlove, 1999). Consultants move into education (Kipping and Amorim, 2003).

This means that universities and corporations are regressing towards some kind of uniform way of operating. Against this reasoning it can be argued that there are limits to this regression towards a mean, since universities and corporations are fundamentally different. Universities have a significant role in society, which implies conducting basic research, without paying too much attention to immediate gains. In addition, they provide a basic general education without links to a particular company. In this way they may pave the way for unexpected innovations and a solid intellectual infrastructure for various countries.

However, there is a risk that these traditional tasks of universities may be challenged as the market takes over. Universities, like most other organisations in society, run the risk of being increasingly evaluated on their short-term performance particularly in the media and in other popular contexts. Appearances in television studios, debates and local discussions may become more important than long-term serious research. Well-formulated plans for spectacular strategic change may become more

important than long-term gradually accomplished changes. If so, universities may lose some of their capacity to deliver what the state wants them to deliver: good teaching and innovative research. Therefore, the state has a significant role to play in order to protect academic institutions from this short-termism. However, this protection would require that the state as principal should be able to show more patience than the market. It would also require openness for the freedom for academic scholars to undertake inopportune research and to express non-conformist ideas. In addition, it would also require that the division of labour between the state and academic institutions is kept clear in a way similar to what has today become the practice of many countries with respect to the central bank. Basically this means that the productive university can be expected to prosper with a healthy mix of coercive and mimetic forces at arm's length distance interacting with the normative forces of the academic field. If so it may also be found, in the latter part of the present century, that universities constitute a species with long life.

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Values, Ethics and Teacher Education: A Perspective from Pakistan

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Values and ethics are automatically incorporated into any teaching/learning environment or endeavour, whether or not they are consciously stated objectives. The focus on "quality of education" has sharpened as people have become concerned about a perceived rise in materialism as standards of living have improved; materialistic ambitions increasingly fill the ideological gap created by the move to a pluralistic society in which there is a less general consensus of values and ethics. There is increasing demand for insight into the potential of the formal teaching/learning process for inculcating, learning/unlearning (as the case may be) and consolidating values. The manner in which teachers are trained has far-reaching implications for the youth in schools, and a systemic inquiry into the structure, role, responsibilities, aims and curricular objectives of teacher education is the obvious starting point. This paper tries to delineate the global normative aims of education as a model for assessing the composition of the teacher education curriculum in Pakistan. It looks at the intended curriculum, bearing in mind that the formal and the active curricula may not necessarily converge. The paper accepts that ethics and values education is still in a formative stage. However, one critical question that will remain open at the philosophical level is "which values should be included?" and this needs to be vigorously researched to establish guidelines that have global consensus. The next crucial question will then be "how best to teach to ensure that these ethics and values are internalised by learners?"

Introduction

Pakistan is a developing country, with a dense population (140 million) and a high rate of population growth. It ranks 144th on the Human Development Index, with abysmally low indicators of literacy and education, amongst others. Although the resources allocated to education have increased (from 1% of gross national product in 1947 to nearly 2.7%) (Khalid, 2003, p. 313), they are still the lowest in South Asia. The situation is further compounded by issues involving disparities in access, opportunity and participation according to educational status, social class, area of residence and gender, resulting in a wide variance in the social status and privileges enjoyed by its citizens. The overall deterioration of the state-run school system in Pakistan has given rise to alternative forms of education. There is robust growth in private schooling (more than 30% of total formal school provision), which is no longer confined to urbanised areas catering to the needs of the rich or elites. There is also a sizeable non-formal sector managed by civil society/non-governmental organisations, as well as quite a few religious institutions (including mosque schools and *madrasahs*).* All four systems provide clear variations in the quality of education provision for learners/students (Zia, 2003b). Student/teacher ratios in primary schools are extremely poor, in some cases averaging 55 to 1. Moreover, only 57% of boys and 44% of girls are enrolled at the primary level. The dropout rate during the first five years of primary school is around 70%. At the secondary level, 46% of boys are enrolled in school and only 32% of girls. Illiteracy is extremely high, particularly among girls, where it can reach 72%. Among males, illiteracy stands at 43%. Since the early 1990s private English-medium schools and *madrasahs* have proliferated throughout the country.

Economically, Pakistan suffers from large fiscal and trade deficits, the absence of a strong middle class and low foreign investment. Economic growth has been sluggish, with 33% of the population living below the poverty line. The past few years, however, have seen a surge in remittances from abroad, leading to growth in the economy. High fertility rates together with heavy migration (from Afghanistan) have placed strains on progress to date.

* *Madrasahs*, for the most part private institutions, provide religious education to train future religious scholars and religious functionaries. *Madrasahs* vary in the number of years and levels of schooling they offer, as well as in their schools of thought.

The widening chasm of inequality in the distribution of wealth is a serious concern. For the first time since 1990, Pakistan is not subject to any United States sanctions. Massive aid and funding are flowing into Pakistan. The fact that the aid goes to government, which is largely the case now, creates further structural issues (Bauer, 1991, p. 10) and is another cause for concern.

Politically the country has had a chequered history, having spent more than half of its existence under military rule. Twenty-seven civilian prime ministers and four military leaders have taken the helm of the country's affairs. "Political decision-making is highly centralised and non participatory people have been largely disenfranchised, disillusioned, and distrustful the country suffers from weak public institutions" (Ravi, 2006, p. 212).

Islam is the *raison d'être* of Pakistan's independence and plays a strong role in the value system of the country, be it specifically in education or in society at large. The fact that Islamic teachings are subject to a host of interpretations is a further complication (Zia, 2003a), not least because of differing sects within the population. Islamic teachings are perpetuated unchallenged, due to widespread ignorance and illiteracy but also, in some cases, as acceptable social/cultural norms (UNESCAP, 1997, p. 3), including, for example, practices such as honour killings (Zia, 2000). The country is culturally and ethnically diverse and is struggling with ethnic strife. Religion has played a strong role in the country's politics, especially since the 1970s (with General Zia at the helm), and the emphasis on Islamisation has been accentuated in all walks of life. Despite the rhetoric of democracy and freedom, both have remained elusive. It is possible to assert that "religious fundamentalists have, in part exploited these realities and capitalized on the failure of the government to respond to its citizens" (Ravi, 2006, pp. 213-214).

Considering that all formal and informal learning of values in Pakistan is allegedly derived from Islam and Islamic teachings, it is appropriate to place Islamic education and teachings in context.

Islamic education and teachings

Islam is not a religion but a way of life. It preaches moderation and demands purification of motives, the ultimate test being action and behaviour, not merely on worldly grounds but to appease Allah (God). The *Qur'an* talks of "mankind as a single brotherhood" (quoted in Fekih, 1998, p. 105). It does not recognise barriers of birth, race, creed, colour or language, or even geographical barriers. All people, Muslims and non-Muslims alike, are regarded as being equal in terms of their rights and responsibilities. Rights and responsibilities in Islam are characterised by equity in that all people are regarded as being on an equal footing in terms of their rights and the responsibility for their own actions, and balance which is characterised by

moderation. Muslim law warns against the abuse of rights (Negra, 1998, p. 64). Citizenship in Islam, for both Muslims and non-Muslims, depends on a set of rights coupled with a sense of security and freedom. In fact, the rights accorded to citizens in Islam can be said to be on a par with the greatest human formulations of philosophy or law (Negra, 1998, p. 76). "From a Western mindset, Islamic humanism is perhaps the appropriate way to comprehend the basic concept of education in Islam" (Zia, 2006c, p. 32).

In Islam, everything has a value *per se,* as well as in relation to other things. Although greater value is ascribed to the abstract moral values, this does not mean that others such as material or practical values are disregarded, for God has assigned to everything its own place. Muslims derive guidance from the *Hadith* (sayings of the prophet) and *Sunnah* (life of the prophet). The best expression of the message of Islam is contained in the prophet's farewell sermon: "Let me tell you what a Muslim is. He is the one who is without fault in word or deed in his dealings with others." And then also, "a true warrior in God's name is one who wars against his base nature in obedience to almighty God".

With no place for asceticism or renunciation of the world in Islam, acts of everyday living, both individual and collective, as part of a society or community, become important. Islam is the law of the individual and of society. The emphasis is on unity and on the rejection of anything that leads to divisiveness. One point needs to be clarified at the outset however, namely that "Islamised" education (in Muslim countries like Pakistan) and Islamic education are not necessarily synonymous (Zia, 2006c, p. 31).

Higher education

Higher education has seen massive growth in enrolment in the past few years. Hitherto higher education had taken a back seat in the preceding decades as the country's educational policies focused on making primary schooling more viable and effective. Scarce resources had made it necessary to choose one or the other, and higher education was sidelined in the process.

With adult literacy at 43%, it is no surprise that only 2.6% of the population is presently enrolled in higher education. Yet despite the bleak overall statistics in school education, the country has witnessed a tremendous surge in higher education institutions over the past few years. Student enrolment is rising sharply year on year, as the benefits of a college degree become more apparent, especially in the business and high-tech sectors. By the year 2010, it is estimated that Pakistan will need to accommodate 1.3 million students at the tertiary level. Aware of the great need to close the education gap, the government has made it relatively easy for the private sector to establish colleges and universities. As a result, a record 49 new

universities and other degree-awarding institutes (most of them private) have been founded since 1999. The Higher Education Commission (HEC), established in 2002, has reinvigorated and streamlined the higher education sector. Aware of the pitfalls of a sharp increase in quantity in institutions and student enrolment, HEC is taking an increasingly proactive role in enforcing quality and promoting stringent criteria for quality assurance.

At present there are 26 universities in Pakistan, five of them privately owned. In addition, nine centres of excellence, six area study centres and six Pakistan study centres have been established in selected specialised disciplines for study and research. In addition, the country has some 800 public and private colleges offering four-year courses (which include grades 11 and 12) leading to Bachelor's degrees. Some offer an Honours degree that requires an additional year of study. A further two years of study after the Bachelor's degree is required to obtain a Master's degree, also offered at quite a few institutions. A Doctoral degree normally requires a minimum of three years' study beyond the Master's degree. All degree colleges are affiliated with the universities of their jurisdiction. All degrees at the graduate and postgraduate levels are awarded by universities. Since universities have to be accredited by HEC, stringent quality assurance criteria must be met to satisfy HEC requirements.

Teacher education

In Pakistan, where the education system and education statistics demand considerable attention, improving teacher education has become a top priority. Many institutions offer undergraduate, graduate and postgraduate courses of study. At present there are a total of 135 institutions, 114 of which are in the public sector and 21 in the private sector. Total enrolment in these institutions amounts to 36 563 students, with a slightly higher ratio of women to men (Appendix A). The graduates from these institutions will not all necessarily take up teaching, nor will they all enter the public sector. Of all the professions, teaching is looked down upon and, by and large, those who enter teaching have no other choice (Siddiqui, 2006, p. 81). Teachers therefore tend to leave the job as soon as they find better prospects elsewhere. In a country where the demand for teachers is expanding, it is clear that the number of people completing pre-service teaching education is well below demand, and that fewer still are applying for teaching jobs.

All public and private teacher-education institutions offer their own courses of study. The objectives are based on the aims outlined, albeit briefly, in the country's educational policies. HEC-accredited institutions must have their curricula endorsed by HEC. This means that the higher education colleges affiliated with HEC-accredited universities are developing

standardised criteria for their syllabi, courses of study, teaching faculty, student admissions criteria and student assessments. It may be said that the courses offered by all public and private teacher-education institutions tend to be quite similar. The difference in public and private higher education institutions lies basically in the quality of resources available to learners, including the quality of their teaching faculty.

General aims and objectives of teacher education

The aims and objectives of teacher education, much like those of education in general, can be classified as either cognitive or normative. In both cases, they have undergone noticeable changes over the past few decades:

1. Developmental aims, be it development of the individual, the country or the economy.
2. Aims involving basic skills and the reproduction of existing knowledge, dealing with vocational aptitude and employability. These of course relate directly to the teaching profession, with some differences in terms of content and pedagogical skills depending on the expertise required in a subject area or for a specific level of schooling.
3. Normative aims, also known as ethics and values.

From a historical perspective, all of the above show clearly changing trends in either type and/or emphasis. The most dramatic trends are visible in the third or normative domain with the steady growth in emphasis on world citizenship, religion, democracy and equality from 1965 onwards, while human rights, peace and justice emerged from the 1980s onwards and have taken on greater importance with the passage of time (Fiala, 2006, pp. 23-26).

Normative aims, with their implicit values and ethics, form an integral part of an educational institution or curriculum. There are arguments and counterarguments as to the efficacy of teaching values to graduate students. Some maintain that values cannot be taught, as students at the graduate level have a well developed and rather fixed code of conduct which has been conditioned over the years, making it difficult for them to accept new conventions; a similar view holds that "preaching" values can have a negative effect on students who may feel that the course or curriculum is intended to "indoctrinate" values, while still others may call it "professional socialisation" (Camenisch, 1986, p. 499). With this in mind, care is needed to ensure that the content of any course on values and ethics should "primarily be a review of the various criteria of the moral judgment, with emphasis upon the conceptions of personality and of society involved in these. This content should be pursued in a spirit of a constructive search" (Hudson, 1912, p. 4).

This will essentially lead to courses in ethics that do not rely on the blind indoctrination of students by merely instilling a naïve sense of right and

wrong, but rather those which endeavour to inculcate in them the habitual ability to critically analyse moral dilemmas.

Here it is important to appreciate that, while a code of conduct or values may be understood to have been previously instilled in students before starting higher education, research indicates that the college and university years are the most important ones in which students may evaluate, form and change their attitudes, values and opinions. It is further argued that offering courses in values and ethics at this stage will enable students to understand the cause-and-effect relationship between behaviour and events (Churchill, 1982, pp. 300-303). The universities cannot afford to take the formation of such values for granted, and although people may be responsible for their own behaviour, ultimately the onus is on the institution to delineate and set parameters for what constitutes acceptable ethical conduct.

Nevertheless, the consensus is that since the early 20th century ethical thinking has failed to keep pace with the rapid development of economic and political thinking. More specifically, some maintain that the traditional values of virtue and morality stand irrelevant and in conflict with the ruthlessness of corporate work and life (Adams, 1932, p. 57).

Normative objectives of teacher education as specified in the country's educational policies

In Pakistan, curricular objectives for the various subject areas are a federal responsibility. Although curricular objectives have been drawn up for most subject areas, no overall objectives have been formulated nationally for teacher education. All institutions awarding Bachelor and Master Degrees in Education offer courses based on the curricular objectives of teacher education as developed by the degree-awarding institutions themselves and endorsed by HEC for accreditation purposes. These institutions are guided by the country's education policies as the only national endeavour that offers direction in this specific regard. All education policies address teacher education as a separate chapter, outlining plans and recommending implementation strategies to improve teaching quality, the sole exception being the 1980 education policy document, which did not deal with teachers and teacher education at all. Even so, policy documents offer only nominal guidance on setting curricular objectives for teacher education. The normative objectives are even less clearly defined in these policies. For example the latest policy document (1998-2010) states that "the academic qualifications, knowledge of subject matter, competency, skills and **commitment of the teacher** have an effective impact on teacher education" (my emphasis) (Government of Pakistan, 1998, p. 41).

In this case, the normative aims are stated in the form of "commitment".

In the 1979 policy document, the only reference to normative aims lies in the fact that the "basic" admission criteria for teacher education include a "strong commitment to the Ideology of Pakistan" (Government of Pakistan, 1979, p. 63). In the same document, the policy places the onus for qualifying the term "ideology" of Pakistan on the Council of Islamic Ideology. The document also states: "Until objective criteria are formulated for this purpose, there would be sufficient room for apprehension about the suitability of the candidates who are admitted to pre-service training institutions on the basis of their avowed commitment to the Ideology of Pakistan" (Government of Pakistan, 1979, p. 65).

The document also talks of developing a "Code of Ethics" for teachers at all levels, to be implemented by 1980. Though such a code has been developed for university lecturers; no such code exists for school teachers.

The 1972-1980 policy document talks basically about "reorganising teacher education programmes by innovative techniques" (Government of Pakistan, 1972, p. 23), the governance and motivational problems of teachers and how to overcome them, including recruitment, pay and grade structure.

Pakistan's 1959 education policy refers to the normative standards expected of teachers as "a strong sense of vocation, sense of service to the nation, a willingness to help in constructive work, a determination to find substance for teaching in the conditions and materials around them without waiting for imported aid and apparatus and a developed sense of professional ethics and honours" (Government of Pakistan, 1959, p. 259).

The policy goes on to set the criteria for good teachers as being academically well-trained in the subjects they teach; with sound professional training, an understanding of the children in their charge and a deep sense of professional honour. Realising the important role of ethics, the policy clearly states the need for a national professorship in Professional Ethics to teach in such institutions (Government of Pakistan, 1959, p. 263).

"Observance of Islamic moral standards" is explicitly stated in Article 25 of the country's constitution and it provides clear direction for social advances in general, and in education in particular. All educational plans and policies have laid emphasis on the preservation and transmission of Islamic values and professed Islam as the way to produce a truly egalitarian Muslim society (Government of Pakistan, 1979, 1992, 1998). The 1972-1980 policy document deviated from the norm to include the promotion of the Ideology of Pakistan for social cohesion and national identity. It could be seen as more secular in character since it devolved the responsibility for religious attitudes on parents and the community. 1980 onwards saw a more assertive stance on Islam and Islamisation and Pakistani Ideology. Citizenship is emphasised in terms of

Pakistani nationhood and extends to include global citizenship but within the religious confines of the *ummah* (Muslim Brotherhood).

It is clear that education policies provide little guidance on how to inculcate professional ethics and values in student teachers. Whatever is stated is derived from Islamic values and/or the Ideology of Pakistan. It is also clear that policy-makers see a contradiction between the practice of Islamic teachings and modernity, hence the explicit reference to the need to produce "a true practising Muslim entering the next millennium with confidence" (Government of Pakistan, 1998, p. 1). The inculcation of traditional and Islamic values is also seen as a way of promoting national cohesiveness, unity and integration with the Muslim *ummah*. It is evident that Islamic values are considered a gateway to global bonding, both with Muslims and the world at large.

Curriculum objectives of BEd and MEd programmes

In Punjab alone there are four public degree-awarding universities and around four private universities (excluding universities that are discipline- or profession-specific). All universities and many colleges offer Bachelor of Education (BEd) and Master of Education (MEd) courses. The uniformity of the courses provided by the various higher education institutions is being institutionalised by the quality-assurance norms and criteria developed by HEC. This ensures equivalence across different institutions.

There are 44 public colleges of teacher education spread throughout Punjab, all of them affiliated with the University of Education (UoE). For the purpose of this paper, the curricular objectives of teacher education by the UoE, which caters to the largest number of students in the province, are taken as the model.

The UoE has set out a list of 11 key objectives for its BEd programme. Of those 11 stated objectives, only 1 (Sportsmanship) qualifies as a value-related aim, while the other 10 focus on cognitive aims, *i.e.* content and pedagogical skills (Appendix B). Sportsmanship covers a range of values including team spirit, positive approach, competition and collegiality.

A detailed study of curricular objectives in the various subject areas of the BEd programme of studies presents a clearer picture (Appendix C). All of the courses on offer are fairly high in subject-area content and pedagogical skills, as specified in the stated aims of the course. Eleven of all 25 courses rate "low" in referring to ethical aims while "Islamiyat (Islamic education) and Professional Ethics" and "Teaching of Social Studies" rate fairly high in specifying ethical objectives. These two subject areas, which also include the "Teaching of Home Economics", can be rated "high" in terms of their focus on value-related objectives.

MEd courses lay even less emphasis on professional ethics or values such as democracy, citizenship, peace or justice (Appendix D). There are 20 courses of study on offer, core and electives included; they all rate "high" for content-related objectives, most (18) also rate high on skill-related objectives, while only one rates "high" in ethics-related objectives (Islamic System of Education). Eleven courses rate low in stating ethical objectives, while eight offer no ethical aims at all in their statement of objectives. Objectives relating to the inculcation of values, as specified above, are either rare or non-existent.

No specific courses are offered in ethics (except one grouped with Islamic Education) or in values education. Where the objectives are actually stated, they tend to be confused. There is a need for a more coherent, cogent and substantial policy direction. This paper does not delve into the reasons for the apparent neglect or confusion in this area. It could be due to a mixture of ignorance of the theory and literature; fear of controversy, not least because of religion; disagreement over the role of education in influencing student values and conduct; mere apathy; or a mixture of all these factors.

Conclusions

Trends in educational curricula throughout the world show a distinct shift towards wider curricular choice and decentralised educational management. A curriculum is expected to prepare both the individual and the country for citizenship of a supra-national society, *i.e.* the global world, in social and economic terms. Some express the concern that curricula do not depict the reality of today's world, *i.e.* inequality in terms of power or resources, or the hostility and conflicts among different cultural groups. This is troubling since the modern curriculum tends to empower the student as a modern individual in a modern society in a global world (Rosenmund, 2006; Ramirez *et al.*, 2006).

While cognitive and developmental aims have always been part of the intended curriculum, the normative role of education in areas like democracy and equality became part of this matrix of educational and curricular aims towards the latter part of the 20th century. It is clear that, in the coming years, every country will have to make more room for values and ethics in the curriculum at all levels of education. Consideration will also need to be given to the evidence suggesting that ethics and values are more likely to be taught "across the curriculum" than as a separate class (Lecroy, 1992, p. 36).

The founders of Pakistan emphasised Islam and Islamic values at all levels. They saw no contradiction between Islamic values and the modern concepts of equality among human beings. Calls to observe the "principles of democracy, freedom, equality, tolerance and social justice" have been the cornerstone of the country's constitution (Raza, 1997, p. 4). Likewise, the aims

of education policy have emphasised Islamic values such as universal brotherhood, tolerance and justice along with the developmental aims of education since the founding of the state (Government of Pakistan, 1947).

Over the 60 years of the country's existence, there have been more than 18 educational policies and commissions. They have all repeatedly called for the development of a good Pakistani citizen, a good Muslim and a good productive human being. How these three main objectives have been translated into teaching in the classroom requires further study. It is clear that Islam and Islamic values have shaped the normative objectives of the educational system as a whole. Within the context of national policy making, international norms for equality and citizenship are not considered to run counter to the development of these values through Islamic teachings. But the answers to questions like "Whose Islam?" can give rise to a wide variety of outcomes. The efficacy of values and ethics taught in formal education is also dependent upon the manifestation of those values and ethics in the country's prevailing environment, and more research would be needed to establish whether, for example, education on citizenship alone can inculcate democratic skills and civic virtues in students (Zia, 2003b).

Even if we were able to resolve issues concerning the inclusion of moral and ethical values in any curriculum or more specifically the teacher-education curriculum, the main challenge would then be to test and assess whether the requisite output or outcomes had been achieved. There are also many other issues that require further research, including the following: Is it possible to teach virtue or values? To what extent can teaching affect the moral judgement of students? What kind of understanding do students develop of the ethical standards they are taught? How do students subsequently incorporate the ethical standards into their personal and professional lives? (Hejka-Ekins, 1988, p. 889) Is there a gap between what we teach and what we test for? Does giving the "right" answer really mean much? Tests like Rest's Defining Issues Test and Kohlberg analysis have raised concerns that they are masculine constructions that ignore the contextual and relational understanding of morality, and also that the Kohlberg tests are themselves value-laden. The question then is how to create teaching that is "value neutral"?

The values to be inculcated in teachers need to be juxtaposed and viewed from many perspectives: the global world, contextual societal/cultural norms, national educational aims, student needs and future needs. There is no clarity on the type of values to be laid down as the objectives of a teacher education curriculum. Furthermore, those that are enunciated fall within the ambit of Islamic teachings. Since Islamic teachings are open to a host of interpretations, this makes the task arduous. As for ethics, a professional code of conduct specifically for teachers needs to be clearly set out. Professional

ethics are not explicitly mentioned either, in the UoE's curricular objectives as delineated above. In a professional code of conduct/ethics, one might expect to find a "commitment to the student, the public, the profession and professional employment practices" (NEA, 1975).

Pakistan is a relatively young state founded on religion. It faces all the dilemmas generally encountered by other developing countries throughout the world. It also shares some of the common issues faced by most Muslim countries, especially in a post-9/11 world. Furthermore it has some unique social and cultural concerns at the national level. Hence it is no surprise that any values to which it may aspire in terms of educational aims in particular are grounded in the reality of the religion (which is seen to prize the same values as those coveted by the developed, modern countries of the world) and the ideology of its nationhood. As the country matures, with the resolution of issues at a national level, it can be expected to become inclusive in its definition of values and ethics from different perspectives. Clearly the development of curricular frameworks would be an initial step in that direction, as far as teacher education is concerned. This would perhaps be best tackled by a professional body at national level. The next step would be to ensure that the stated objectives of teacher education in terms of values and ethics instruction are implemented.

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APPENDIX A

Teachers Training Institutions by Province and Gender, 2004/05

Province	Type	Institutions				Enrolment			Teachers		
		Male	Female	Mixed	Total	Male	Female	Total	Male	Female	Total
Punjab	Public	30	14	–	44	12 159	3 839	15 998	1 026	461	1 487
	Private	–	–	3	3	1 500	1 000	2 500	–	–	–
	TOTAL	30	14	3	47	13 659	4 839	18 498	1 026	461	1 487
Sindh	Public	13	11	–	24	1 340	1 298	2 638	227	180	407
	Private	–	–	6	6	2 926	3 648	6 574	22	67	89
	TOTAL	13	11	6	30	4 266	4 946	9 212	249	247	496
North West Frontier Province	Public	10	10	2	22	2 482	2 287	4 769	163	105	268
	Private	–	–	6	6	54	36	90	–	–	–
	TOTAL	10	10	8	28	2 536	2 323	4 859	163	105	268
Balochistan	Public	7	4	–	11	1 618	772	2 390	193	78	271
	Private	–	–	2	2	–	120	120	–	–	–
	TOTAL	7	4	2	13	1 618	892	2 510	193	78	271
Azad Jamu and Kashmir	Public	6	6	–	12	334	393	727	62	63	125
	Private	–	–	2	2	–	120	120	–	–	–
	TOTAL	6	6	2	14	334	513	847	62	63	125
Islamabad Capital Territory	Public	–	–	1	1	334	223	557	18	11	29
	Private	–	–	2	2	48	32	80	–	–	–
	TOTAL	–	–	3	3	382	255	637	18	11	29
Pakistan	Public	66	45	3	114	18 267	8 812	27 079	1 689	898	2 587
	Private	–	–	21	21	4 528	4 956	9 484	22	67	89
	TOTAL	66	45	24	135	22 795	13 768	36 563	1 711	965	2 676

Source: AEPAM (2007).

APPENDIX B

Objectives of Bachelor of Education Programme: University of Education Punjab

The objectives of the BEd programme are to equip students with:

- basic and advanced knowledge in different disciplines;
- latest trends in teacher education;
- modern and latest pedagogical skills;
- computer literacy and command of teaching software;
- practical along with theoretical skills;
- research orientation;
- rigorous practice in content and methodology;
- broad vision with innovative topics like computer application or educational technology;
- ample practice in technology for classroom teaching;
- varied arts and crafts techniques for effective teacher education;
- sportsmanship.

The main features of the BEd programme are to enable student teachers to: become agents of change; be able to transfer technology to their schools; have a better command of content matter and pedagogical skills; be well versed in instructional technology and computer skills; and be well grounded in educational assessment techniques. There is also a special course on "Teaching through Art and Craft", and an innovative course on "Sports and Value Added Skills".

APPENDIX C

Bachelor of Education Programme

Subject	Curriculum objectives	Nature of course			
		Content	Skills	Ethics	Values
Semester I					
Orientation course	Familiarise students with the courses offered, lesson plans, classroom management, assessment and research	High	High	Low	None
Teaching and communication skills	Equip students with communication skills and e-communication techniques	High	High	None	None
Teaching through art and craft	Familiarise students with art and craft, different art techniques, responsibilities of art teacher; develop creative thinking	High	High	None	None
Instruction technology and computer application	Familiarise students with computers and instructional technology and presentation skills	High	High	None	None
Psychology applied to classroom teaching	Familiarise students with pedagogical skills, instructional objectives, human memory, problem-solving techniques, evaluation and approaches to classroom management	High	High	Low	Low
Primary school mathematics and teaching	Acquaint students with basic knowledge of numbers; skills in computation in four fundamental operations, presentations; teaching techniques; lesson plans and assessment	High	High	None	None
Primary school science and teaching	Familiarise students with natural sciences, biological sciences, environmental science, astronomy and space sciences, teaching techniques and assessment	High	High	None	None
School english	Acquaint students with grammar, prose, poetry and short stories	High	High	Low	Low
Teaching of urdu	Acquaint students with grammar, prose, poetry and short stories	High	High	None	None
Islamiat and professional ethics	Inculcate ethical practices as a professional and social responsibility teach conflict resolution	High	Low	High	High

Subject	Curriculum objectives	Nature of course			
		Content	Skills	Ethics	Values
Practice teaching	Acquaint students with established teaching practices	High	High	Low	Low
Semester II					
Educational assessment	Familiarise with assessment and evaluation, develop ability to make tests, interpret test scores	High	High	Low	None
School curriculum	Students will learn to differentiate between syllabus, curriculum and instructions, and will discuss curriculum techniques in Pakistani and global context, educational innovation, curriculum development and evaluation	High	High	Low	None
School administration and management	Acquaint students with management and administrational skills in education and the importance of the communication process	High	High	Low	None
Elementary School Science and Teaching	Develop understanding of scientific concepts and importance of science education; differentiate between products and process	High	High	Low	None
Elementary school mathematics and teaching	Acquire elementary knowledge of number systems, modern mathematical concepts, geometrical construction and presentation	High	High	None	None
Teaching of english	Develop listening, speaking, reading and writing skills, improve pronunciation, use teaching aids, and do grammar practice, lesson plans and assessment	High	High	None	None
Teaching of social studies	Differentiate between Hindu, Muslim, British and post-independent periods; learn roles and responsibility of citizens, Islamic democracy, geography and map interpretation, and pedagogical skills in the classroom situation	High	High	High	High
Teaching of home economics	Acquaint students with food and nutrition, cloth design, and measurement; improve awareness of family and society and sanitation	High	High	Low	High
Teaching of agriculture	Students will be able to teach agriculture in elementary schools, use agricultural tools and machinery, and learn about innovation in agriculture	High	High	None	None
Arabic and teaching of arabic	Acquaint students with basic Arabic grammar and inculcate techniques for teaching Arabic	High	Low	Low	None
Sports and value-added skills	Inculcate knowledge of different sports and their importance for health; use various tools and machines for exercise	High	High	Low	Low
Basics of educational research	Develop understanding of philosophy of educational research, structure, problem identification, concepts of hypothesis, literature review, data collection, analysis and inferences	High	High	None	None
Practice teaching	–	High	High	None	None
Research project/ thesis	–	High	High	None	None

Assessment: Formative and continuous summative assessment is used to assess different courses with a weighting of 60% and 40%, respectively. The formative assessment is based on regularity/punctuality, classroom participation, assignments, presentation and midterm/monthly tests as specified in the Assessment and Examination Regulations.

Note: *Normative values* here are taken to include world citizenship, religion, democracy, equality, human rights, and peace and justice.

The courses are categorised according to their nature, *i.e.* whether they primarily inculcate content, skills, professional ethics or values. Each course is rated "low", "medium", "high" or "none" depending on the extent to which these are mentioned in the course content.

APPENDIX D

Master of Education Programme

Subject	Curriculum objectives	Nature of course			
		Content	Skills	Ethics	Values
Philosophy of education	Explore relationship between philosophy and education, educational concepts, content formation	High	High	Low	None
Educational psychology and guidance	Describe psychological foundations in education, acquaintance with new classroom practices	High	High	Low	None
Islamic culture and ideology of Pakistan	Inculcate an understanding of culture and ideology of Pakistan	High	Low	Low	None
Educational testing, measurement and assessment	Understand concepts of measurement, evaluation and application	High	High	None	None
Research methods in education	Acquaint students with research procedures	High	High	Low	None
Educational management	Acquaint students with concept, principles and practices of administration and supervision in educational institutes	High	High	Low	None
Curriculum development	Understand concept of curriculum and process of development	High	High	None	None
Technology and computer application in education	Enable students to make their instructions more effective by planning and using media skills	High	High	None	None
Islamic system of education (seminar/reading course)	Understand concept of education and the importance of the services of Muslim scholars	High	Low	High	Low
Areas of specialisation (students select any 3 from these 11)					
Research project/dissertation	–	High	High	None	None
Educational administration	–	High	High	Low	None

Subject	Curriculum objectives	Nature of course			
		Content	Skills	Ethics	Values
Educational guidance	–	High	High	None	None
Continuing education	–	High	High	Low	None
Curriculum	–	High	High	None	None
Educational psychology	–	High	High	Low	Low
Educational research	–	High	High	None	None
Islamic education	–	High	High	Low	Low
Teacher education	–	High	High	Low	Low
Special education	–	High	High	Low	Low
Computer aided instruction, learning, testing, measurement and evaluation	–	High	High	None	None

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Selection criteria

The Journal is primarily devoted to the needs of those involved with the administration and study of institutional management in higher education. Articles should be concerned, therefore, with issues bearing on the practical working and policy direction of higher education. Contributions should, however, go beyond mere description of what is, or prescription of what ought to be, although both descriptive and prescriptive accounts are acceptable if they offer generalisations of use in contexts beyond those being described. Whilst articles devoted to the development of theory for its own sake will normally find a place in other and more academically based journals, theoretical treatments of direct use to practitioners will be considered.

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

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Electronic submission is preferred. ***Three copies*** of each article should be sent if the article is submitted on paper only.

Length: should not exceed 15 pages (single spaced) including figures and references (about 5 000 words).

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Quotations: quotations over five lines long should be single-spaced and each line should be indented seven 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, at the end of the article.

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