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# Background paper

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## **Transparency and Quality in Higher Education Markets**\*

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Since applicants are generally hard-put to know just how much they are really learning, let alone how much they can expect to learn at a school they have never seen, they do not make enlightened choices. They rarely possess either the time or the information to explore all the promising options available to them and usually have only a limited basis for comparing the options they do consider. Under these conditions, competition does not necessarily cause good instruction to drive out bad. Instead, students often flock to courses with superficial appeal or to institutions with established reputations even though the education they receive is only mediocre.... [C]ompetition does not inspire universities or their faculties to do as much as they might to improve their instruction in the way that it forces computer companies to work at improving their products (Bok, 2003, pp. 161-162).

#### Introduction

Perfect competition and efficient markets presuppose that market transactions are "transparent," that is that producers and consumers possess "perfect information" about products or services.<sup>1</sup> This perfect information includes information on price as well as information about relevant characteristics of the product or

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<sup>&</sup>lt;sup>1</sup> The basic theoretical concepts of information economics to follow are derived primarily from Carlton and Pertloff, 2000 and Friedman, 2002.

service such as quality.<sup>2</sup> In the case of pure commodities and/or "search goods" that are frequently purchased, information about price alone may provide sufficient knowledge to the consumer to assure that markets are Pareto efficient. However, in the case of less frequently purchased and/or "experience goods," whose relevant characteristics can only be effectively assessed by consumption, it is possible that reliance on price information alone may lead to market failure. This economic logic is therefore used to justify various regulatory policies designed to protect consumers such as licensing and the provision of information on the quality of goods and services (Smith, 2000). Higher education is not only perceived to be an experience good (McPherson and Winston, 1995) and a rare purchase, but also a major influence on students' "life chances."<sup>3</sup> Therefore a strong argument can be made for adequate consumer information in higher education (Cave, 1994). Better information is important not only for consumer protection purposes, but also for producer effectiveness. Information on the quality of a product provides an incentive for producers to invest in quality improvements and thereby better compete in the market.

Within the field of economics information problems that contribute to market failure are often described as "information asymmetries." This implies that producers of a good or service may have knowledge about their product that is unknown or unavailable to consumers and this asymmetry of knowledge creates an uncertainty in transactions that may not produce a Pareto optimum (Akerlof, 1970). In the instance of higher education, this uncertainty can be understood in several ways.<sup>4</sup>

In the first instance information asymmetry in higher education can be understood as an example of the "principal-agent" problem. Higher education in all countries is provided by or heavily subsidized by the state

<sup>3</sup> It could be argued that the products of higher education are "post-experience" goods like psychotherapy (Weimer and Vining, 1999), whose quality can be accurately assessed only after consumption is completed, if then. Post-experience goods may therefore warrant even more rigorous efforts at consumer protection. We are not convinced that higher education meets this stricter standard.



<sup>&</sup>lt;sup>2</sup> The major concern with imperfect information in higher education relates to academic quality, but recent US research suggests that there may also be some potentially important issues related to the transparency of "price." Kane (1999) surveys the long-standing issues associated with cost and access in US higher education and suggests that informational issues may be a primary cause of poor college going rates among low-income groups (for more recent empirical support, see Avery and Hoxby, 2002; Kane, 2002). Kane (1999) argues that college access policies featuring backward-looking, means tested-financial aid benefits make the price of higher education less transparent. Students and their families cannot effectively determine the cost of higher education until after they have applied for university and learned about their eligibility for financial aid. In contrast he points out that the Australian means-tested Higher Education Contribution Scheme (HECS) is forward-looking, based upon the student's future income. Arguably this approach increases the transparency of the costs and benefits of higher education in two ways. First, it makes clearer prior to university application the student's eligibility for financial assistance (i.e., there is no eligibility criterion for HECS) as well as the associated costs. Secondly, it focuses students' attention on their future earnings stream, which should be an important component of their decision to attend university. Because the adoption of tuition fees and the expansion of means-tested financial aid have accompanied policies designed to enhance access to higher education around the world (Jongbloed b, in press), increasing the transparency of university "price" may help secure the expected benefits of higher education markets.

<sup>&</sup>lt;sup>4</sup> In the analyses to follow we focus on the informational issues associated with the market for educational programs. Similar issues can be raised with the market for research. For example, informational problems have emerged as part of the evaluation of research quality in the UK (i.e., the Research Assessment Exercise (RAE), with critics arguing essentially that funding based upon imperfect information on research quality is inefficient for the larger society.

due to its presumed social benefits. Because students can be considered "immature consumers," the state may stand in for the consumer and act on the students' behalf to "purchase" higher education. In developing its implicit contracts with universities, the state may confront difficulties in determining the relative quality of academic work and therefore may be enticed to pay more for research and/or academic programs than is Pareto efficient.

In the second instance information asymmetry in higher education can be understood as a "consumer protection" problem. Universities may produce or publish information about their academic programs that is misleading or not in the interests of prospective students and/or the public. Lacking valid knowledge about the relative quality of educational programs, students may be forced to spend additional time and money searching for relevant academic quality information. Or they may be enticed to purchase an expensive campus-based university education, ignoring a less expensive, but similarly effective, distance learning educational program (of course the opposite could also occur).

Thus in both of these examples there may be an information asymmetry that leads to inefficiency in the market for higher education. As a result, the social costs of a higher education system may not produce the optimal social benefits.

But in the particular case of higher education, there may be a third type of information problem that is not caused by an asymmetry of information so much as by imperfect information (Stiglitz, 2000). Both principals and student consumers may have imperfect information about the true quality of academic programs - that is, the value added they provide to the student and ultimately to society -- but because of the distinctive properties of universities, the producers may have imperfect quality information as well. Because of traditions of academic autonomy and specialization professors may also lack sufficient information to judge the quality of academic programs and may as a consequence fail to improve them. From the standpoint of the overall efficiency of the market in higher education, it may not matter whether there is a problem of asymmetrical or imperfect information. But from the standpoint of designing effective policy interventions, whether inefficiency is caused by academic opportunism or by a dilemma of collective action could be quite important.

In the paper that follows we review relevant research on the transparency of higher education markets. We first explore the relationship between academic quality information and perfect competition in higher education markets and then discuss in turn the known problems of misinformed principals and under-informed consumers, as well as the less familiar problem of ignorant professors. The discussion will focus on the university sector, because the combined production of teaching and research poses particular issues of transparency and quality in higher education markets. In addition, the observed "research drift" in many systems of higher education, in which former teaching-oriented institutions seek to compete with traditional universities for academic reputation and research funds, suggests that the informational problems associated with universities may become more common in other sectors as well.

#### Perfect Competition and Information on Academic Quality

Efficient market competition presumes that consumers have perfect information about price and essential characteristics of a service such as its quality. As noted, for perfect competition to occur in the case of "experience goods" such as academic programs, readily available consumer information about quality is even more crucial. For example, there is some evidence that imperfect information on academic quality in the US market for higher education is encouraging an "academic arms race" in which institutions seek to build their academic reputations through expensive investments in research and high ability students rather than through

improvements in teaching and student learning (Ehrenberg, 2002). To better comprehend this potential market failure we need to clarify the social benefits of academic quality and suggest its potential influence on the efficiency of higher education markets.

We assume that the performance of universities in educating students is to be judged by their contribution to human capital (Becker, 1964). During their university education students' develop knowledge, skills, and abilities that over their lifetimes provide private benefits to themselves as well as social benefits or social capital to the larger society. This human capital perspective provides the logic for public subsidies for higher education and is also explicitly reflected in current national policies on academic quality, which seek to improve the academic standards of higher education institutions (Brennan and Shah, 2000). Consistent with human capital theory these policies increasingly focus on information about student learning outcomes -- the educational "value-added" of an academic program or degree (Dill, 2000).<sup>5</sup>

However, there is an alternative perspective on the performance of higher education institutions, the signaling or screening perspective (Spence, 1973). This perspective suggests that academic programs do not actually add to human capital, but simply "screen" students on pre-existing abilities and offer confirmatory signals of these capabilities to the labor market.<sup>6</sup> "Signaling" also provides economic value to the society by saving employers on the costs of identifying and recruiting new employees, but it is unlikely that these social benefits alone could justify the current substantial public subsidies for higher education throughout the world.

Therefore, in order for market competition in higher education to be Pareto efficient, we assume that the increasing social costs of academic programs are purchasing equivalent social benefits as reflected in gains in students' knowledge, skills, and abilities.<sup>7</sup> For market competition to produce this outcome, consumers of higher education will need information on both the "price" of an academic program and its educational value-added. In the absence of such quality information, market competition may encourage inefficient behavior. Two prominent examples of how imperfect information may lead to market failure are the problems of "cross-subsidization" and "cream skimming."

An important source of normative regulation in academic institutions is the department or faculty, whose structure provides a primary means of social control (Braxton, 1990). But university departments or faculties



<sup>&</sup>lt;sup>5</sup> Astin (1985) most clearly articulates this perspective on academic quality in his "talent development model." Astin argues that the major purpose of a university is to develop the talents' of its students to their maximum potential. This development is achieved by facilitating changes in students' intellectual capacities and skills, values, attitudes, interests, habits, and mental health. Institutions that provide the largest amount of developmental benefits to students therefore possess the highest academic quality.

<sup>&</sup>lt;sup>6</sup> A recent study (Bratti, 2002) of the degree performance of life sciences students in the UK suggests the type and score of Alevel exams taken by university entrants has a high and significant effect on the class of degree awarded. Consequently, Bratti argues, if the quality of student intake is not controlled, the supposed "value-added" by academic programs with a high academic reputation is significantly mis-specified. Astin (1985) conducted similar research in the US indicating that when entering students' abilities are controlled, "academic reputation" is often a poor predictor of educational value added in higher education.

<sup>&</sup>lt;sup>7</sup> Hanushek and Kimko (2000) provide intriguing evidence for the relationship between academic quality as defined here and economic development. They compare the extent to which changes in educational quality (as measured by standardized scores for mathematical and scientific literacy) and in the quantity of schooling (as measured by the number of years of schooling) have contributed to economic growth differences averaged over thirty years across 139 countries. They find that increases in workforce quality have a profound influence on economic growth, much more than increases in the quantity of schooling.

operate as nonprofit labor cooperatives engaged in the production of multiple products (James, 1986). In other words, faculty members essentially control the means of production. As Clotfelter (1996) has observed:

The university's central and most distinctive activities – teaching, research, and public service – are carried out largely by its most distinctive sector of employees: the faculty. As a consequence, the decisions about how to allocate faculty effort are basic to the functioning of colleges and universities, and to their cost. ...most day-to-day decisions concerning these activities are entirely in the hands of departments and faculty members themselves. (p. 179)

Faculty members in universities tend to value research over teaching, because of its intrinsic interest, because of its clear contribution to unit reputation (which is a major proxy for academic quality), and because in competitive research and labor markets time spent on research can lead to increased grant revenue and future earnings for the individual faculty member (James, 1986). Given these incentives and the absence of valid measures of the value added by academic programs, faculty members will choose to "satisfice" teaching quality (Massy (2003). That is, they will limit their time investment in teaching first degree students in order to maximize their time investment in research and graduate teaching. In effect, faculty members act individually (and are supported in these actions by academic policies that they collectively determine at the departmental level) to shift to research activity time paid for by the government and tuition paying students principally for teaching.<sup>8</sup> This represents a market failure in the sense that tax payers and consumers pay a higher "price" for a university education of a given quality than they would if perfect competition caused faculty members and their institutions to continually improve the educational value added of academic programs.<sup>9</sup>

Research on faculty activity in the US (Clotfelter, 1996; Fairweather, 1996; Getz and Siegfried, 1991; James, 1986) over the last several decades has revealed that the proportion of time faculty members reported spending on teaching had fallen and the proportion of time they reported spending on research had risen in all types of four-year institutions. As Clotfelter (1996) discovered in a detailed analysis of changes over time at representative departments at Chicago, Duke and Harvard Universities:



<sup>&</sup>lt;sup>8</sup> Within US colleges and universities, expenditures for instruction are traditionally listed in an accounting category termed "instruction and departmental research," which means that expenditures for instruction also include the time professors spend on research that is not externally funded. If faculty members choose to invest more of their time on research and less on instruction, this could lower the quality and/or drive up the cost of instruction.

<sup>&</sup>lt;sup>9</sup> An obvious response to the cross-subsidization thesis, as well as to our argument below that academic prestige and quality rankings are highly influenced by research reputation, is that teaching and research, particularly in the university sector, are joint products. That is, faculty time spent on research can improve the quality of academic content taught students at the first degree level (Clark, 1997). For evidence on the other side see Astin, 1996. The available empirical evidence on the relationship between faculty research productivity and quality of instruction at the first degree level indicates the association is at best modestly positive, but so small as to suggest the two are unrelated (Terenzini and Pascarella, 1994). For a related review in the UK, see Coate, Barnett, and Williams, 2001. Whatever else may be said about this relationship, it appears too tenuous to provide support for the observable research drift now occurring in higher education systems throughout the world and the growing investment of scarce resources and faculty time in research activity. If these increasing social costs are to be justified, they must be by the social benefits of the research itself, not by its supposed contribution to first-level degree instruction.

average classroom teaching loads, measured in courses taught per year, decreased in the sample departments. Although these calculated loads by no means cover all aspects of teaching, they are suggestive of a significant movement away from teaching and toward research (p. 204).

An important objection to this cross-subsidization thesis in US higher-education is that it fails the "stand alone cost test" (Rothschild and White, 1993). In this test one assumes that first-degree education as a product could be supplied by an undergraduate-oriented college in competition with traditional universities. One then asks whether as a separate firm, on a stand-alone basis, the undergraduate college would not have a competitive price advantage over the traditional university. If it does not, than research cannot be cross-subsidizing teaching in the university sector. Rothschild and White (1993) apply this test in the US by noting that undergraduate education programs produced as a joint product with graduate teaching and research by research universities such as Harvard and the University of California, Berkeley compete easily and well for top students with "single -product" selective liberal arts colleges such as Swarthmore and Pomona. Thus the evidence of the higher education market in the US suggests that the cross-subsidization of research by teaching in the university sector does not take place. Rothschild and White's (1993) argument, however, makes a critical assumption and appears to be inconsistent with recent empirical evidence.

If the [three] institutions examined here are any indication, the period between 1977

and 1992 was one of gradual, but quite perceptive, change. Virtually without exception,

Applying the stand-alone test to a good such as higher education implies that US consumers currently have sufficient information to discriminate between selective liberal arts colleges and research universities on academic quality, since price alone is unlikely to be a sufficient indicator for such a complex service. As already noted, in the absence of valid measures of the educational value added by academic programs, "academic reputation" has become an influential proxy for academic quality among student consumers. Academic reputation itself is strongly related to measures of admissions selectivity and faculty research. Therefore, in order to compete with research universities for the best students, selective liberal arts colleges have also been forced to invest more of their discretionary tuition revenues in faculty time for research. Fairweather's (1996) national survey data revealed that the proportion of time spent teaching had fallen and the proportion of time spent on research had risen over the last ten years not only in research universities but also in selective liberal arts colleges. He also discovered that the promotion and tenure policies of liberal arts colleges were increasingly emulating those of research universities, placing less emphasis on teaching and more on faculty publication. More recent studies of the underlying cost structures of colleges and universities have provided further empirical support for the cross-subsidization hypothesis in both elite undergraduate colleges as well as research universities (Clotfelter, 1996; Ehrenberg, 2002; Massy, 2003).

A second contributor to inefficiency in the academic market may be the increasing emphasis on the test scores of entering students as a measure of academic quality. For example, average entering student test scores are given significant weight in current league tables of academic quality published throughout the world (Dill

and Soo, 2003). This focus on the quality of entering students has received some legitimacy from the recent work of educational economists. In a seminal economic modeling exercise Rothschild and White (1995) argue that talented student peers may act as educational inputs in the production of human capital. That is, the concentration of the most able students in certain colleges and universities is socially beneficial because of the positive peer effects they have on each others' learning. As evidence in support of this thesis, Rothschild and White (1995) note the lifetime earnings advantage that accrues to graduates of the most selective US universities.<sup>10</sup> Subsequently "peer effects" have become an accepted component of higher education production functions among many educational economists (Bratti, 2002; Hoxby, 2002).

For example, in an analysis of the US higher education market Hoxby (2002) argues that, despite evidence of continual tuition increases in both the public and private sector that exceed growth in average family income and inflation, market competition in the US has created an efficient system of first degree education. She bases this conclusion on evidence that US colleges and universities overall have increased their educational quality as measured by their expenditures on educational inputs, which include their expenditures to recruit more talented student peers. She thereby treats the marginal costs of recruiting high ability students as "implicit wages" in payment for their input to improved academic quality. Hoxby concludes that the US baccalaureate market is now in equilibrium and that the net benefit to society of the new competitive market in US higher education is positive. She therefore argues that letting the market work is the most effective public policy.

There are serous questions however about the assumed relationship between peer effects, as measured by entering student average test scores, and human capital formation. Empirical research in support of this relationship is based largely on econometric studies of the relationship been average entering student test scores and graduate lifetime earnings as well as a small number of studies of the effects of peer quality (again as measured by entering test scores of freshman roommates) on grade point averages in US colleges.<sup>11</sup> However, the extensive research on student learning indicates an inconsistent and trivial relationship between admissions selectivity based upon average entering student test scores and measures of the knowledge, skills, and abilities learned by students during their education (Pascarella and Terenzini, 1991). In fact, the most recent review of the peer effects research also casts significant doubt on the supposed relationship between peer effects, as measured by average test scores of entering students, and students' earnings capabilities.<sup>12</sup> First, the research confirms that the impact of institutional selectivity on earnings is nonlinear. Only the most selective institutions may have an impact on earnings. Second, the relationship depends on the students' major field of study, which is often not controlled in relevant studies. That is, less selective, public institutions in the US often offer academic majors with less potential earnings capacity than selective schools. Finally, and most importantly, when studies control for the types of students who apply to more selective institutions – utilizing measures of individual ambition -- the earnings advantage of more selective schools disappears. As Dale and Kreuger (1998) conclude in their carefully controlled study of the relationship between college selectivity and earnings:



<sup>&</sup>lt;sup>10</sup> Rothschild and White (1995) do note that, because of limitations in their modeling exercise, the differences in the incomes of graduates of more and less selective colleges and universities may in fact be attributable to other factors than peer effects.

<sup>&</sup>lt;sup>11</sup> For a comprehensive review of this economic research see Winston and Zimmerman, 2003.

<sup>&</sup>lt;sup>12</sup> This discussion is based on the analysis in a draft chapter on "Career and Economic Impacts of College" kindly provided to me by Ernest Pascarella from the manuscript of a planned revised edition of Pascarella and Terenzini, 1991.

After we adjust for selection, our findings cast some doubt on the view that peer group quality, as measured by the average SAT score of the student who attend a college, is an important determinant of student subsequent life outcomes. The average SAT score of students who attend college – though commonly used as a proxy for peer groups and school quality in previous studies – may be too course a measure to accurately reflect a students' actual peer group or college quality once school selection is taken into account....It is also possible that peer group effects are trivial for college students (p. 30).

Let us be clear about our argument here. We are not denying that university students can be affected by the behavior of their peers, but we seriously question whether manipulating average entering student test scores alone will influence the educational value added by universities. Logically, the affect of peers on the quality of education is moderated by the organization of education and the nature of instruction. For example, many selective US colleges and universities attempt to create a rich "on-campus" opportunity for student interaction through special living and eating arrangements, small seminars, honors colleges, and other special educational opportunities. Similarly, student learning in the UK may benefit from the peer effects promoted by Oxbridge-type colleges. The benefits of peer contacts may be minimal or non-existent however in the large and/or non-residential universities that educate the majority of US college students as well as the majority of students in many other countries.<sup>13</sup>

As in the case of cross subsidization, there is reason to fear that a misplaced focus by universities on improving average entering student test scores, or "student selectivity," could contribute inefficiency in higher education markets. In a recent national study of US higher education Brewer, Gates, and Goldman (2002) discovered that many institutions are making extensive investments designed to increase the selectivity of their admissions process by linking tuition discounts with academic merit and student ability, attempting to lower student acceptance/yield rates, and investing in expensive student consumption benefits such as dormitories, eating facilities, or fiber optic computer networks that will help attract high ability students.<sup>14</sup> The researchers suggest that this attempt to build prestige by "cream skimming" the student market is pursued as a substitute for investments in improving the quality of educational delivery and may therefore lessen the overall educational benefits of higher education for students and ultimately for society.

The problems of cross-subsidization and cream skimming are likely to be exacerbated by the dynamic nature of global reform in higher education. The world-wide adoption of market-based policies for higher education such as common degree frameworks, competitive allocation of research funding, competitive salary



<sup>&</sup>lt;sup>13</sup> That talented peers are not a sufficient condition for effective student learning is also suggested by the current controversy in US higher education over grade inflation in the most selective universities (Rosovksy and Hartley, 2002). Grade inflation, or more precisely grade compression in which all students receive high grades, may lower student's' motivation for significant academic effort, thus negating or undermining the supposed learning benefits to be gained from contact with able peers.

<sup>&</sup>lt;sup>14</sup> Note that students may be willing to pay higher tuition and fees to attend universities that provide greater immediate satisfaction in terms of student living conditions and social life. But unless these satisfactions experienced during the process of education contribute to the students' future productivity, their capacity for learning, or other benefits to the society, they are essentially consumption benefits that add to the cost of higher education and do nothing to enhance human capital (Cohn and Geske, 1990).

schedules, merit-based promotion and tenure policies, and the international competition for research faculty and high ability students could foster an international "arms race" among universities in which global academic reputation will play an increasingly central role. Historically, incentives for faculty members to conduct research in many national systems were constrained by state salary schedules, the inclusion of research support in university base budgets, promotion and tenure policies with limited links to research performance, nationally-oriented research cultures, and differentiated higher education sectors. These policies are now rapidly disappearing. Many countries that have expanded access to higher education over the last decade in order to provide greater economic opportunity for their citizens are now expressing concern about an observed "research drift" in their higher education systems (Dill, 1998). The recent UK White Paper on higher education explicitly noted the danger of cross-subsidization and called for new efforts to assure the quality of teaching and student learning in the more competitive research environment (DFES, 2003). Finally universities in a number of countries, which have historically had an open admissions policy, are now experimenting with selective admissions in order to recruit the most able students from their own country and abroad (Jongbloed, in press a).

In sum, an analysis of existing behavior in higher education suggests that the nature of information on academic quality will be highly influential on the efficiency of future academic markets. We will now turn to a review of the research on the role played by existing quality information among buyers and consumers of higher education.

#### **Mis-informed Principals**

The last decade has produced a "paradigm shift" in governmental thinking about higher education from the state meeting the institutions' needs to the college or university meeting the state's needs. Many states are now experimenting with performance-based funding and various forms of contracting in an attempt to improve the efficiency of their higher education systems (Jongbloed and Vossensteyn, 2001). These contractual relations represent a form of quasi-market in which the state ceases being a direct provider of higher education, but instead becomes a purchaser of services from independent providers, who compete with each other in an internal market (Le Grand and Bartlett, 1993). Quasi-markets differ from real markets in several respects, the most noteworthy being that while student consumers may express their preferences by their choice of educational programs, their choices are not purchases. Instead, purchasing is centralized in a monopsonistic government agency acting on the behalf of the consumers. Government purchasers therefore confront the classical principle-agent concern: "how the principal [government] can best motivate the agent [university] to perform as the principal would prefer, taking into account the difficulties in monitoring the agent's activities" (Sappington 1991).<sup>15</sup>

In order to address this problem, states have attempted to define relevant performance indicators for higher education including measures of academic quality. Governmental steering by performance indicators rests on two main premises: (a) agencies have, or should have, a specified goal or a set of goals and (b) the goals can be quantified so that success or failure relative to the goals can be measured (Heckman, Heinrich, Smith 1997). Both of the premises are problematic in higher education. Universities not only pursue multiple goals, competing objectives, and contentious trade-offs, but the primary goal of higher education -- developing

<sup>&</sup>lt;sup>15</sup> See also the discussion of principal-agent relationships by Massy in this volume.

students' knowledge, skills, and abilities -- is extremely difficult to measure with validity. As a consequence, a variety of proxy measures for academic quality have been adopted

The most common performance indicators of academic quality include cost per student, student noncompletion rates, time to degree, graduate employment, and student satisfaction (Cave, et. al., 1997; Jongbloed and Vossensteyn, 2001). Even if there is a belief that these indicators are effective proxies for desired educational processes and outcomes, there is still the question of how well they measure a university's performance. Johnes and Taylor (1989) discovered that inter-university variation in students' non-completion rate in the UK is highly influenced by the qualifications of entering students and the subject mix. York (2001) shows that the most important variables affecting student dropout are maturity of entry and social class, which together explain more than 80% of the variation. Graduate employment is similarly heavily influenced by subject mix as well as the labor market situation in the relevant region. (Cave, et. al., 1997).

Average cost per student, per graduate, or per credit has also been used as an indicator of academic quality. A high cost per student, however, may indicate either the availability of resources for educational processes or an inefficient use of resources (Cave, et. al., 1997). Moreover, a significant part of a universities' costs is often beyond its control. The implementation of performance funding in Finland revealed that universities in different geographical areas face different prices and are not therefore economically comparable (Höltta and Rekilä, 2003). Over two-thirds of the variation of university unit costs in the UK was explained by different disciplinary mixes between institutions (Johnes 1990). Inter-institutional comparisons of costs may thus be helpful in assessing quality only if institutions experience the same "production technologies" and prices (Cave, et. al., 1997).

Student satisfaction is an increasingly important indicator of the quality of teaching performance and can also be considered as an outcome measure of the education process (Ramsden, 1991). Astin states that "it is difficult to argue that any other outcome category - cognitive or affective - should be given greater priority than student satisfaction" (Astin, 1991: 62). There nonetheless are important issues about the validity of student satisfaction measures as they may vary for reasons other than academic quality and are subject to manipulation. For example student satisfaction differs between required and non-required classes (Haladnya and Hess, 1994) and is related to professor's grading practices (Nimmer and Stone, 1991). Ehrenberg (2002) reports examples of US business schools inflating independently administered alumni satisfaction measures by informing the graduates prior to the survey that higher scores would enhance the economic value of their degrees. Finally, use of student satisfaction as a performance measure may deter professors from experimenting with new teaching methods (Emery, Kramer, and Tian, 2003).

The main challenge of performance indicators is how to measure the contribution that universities make for students' intellectual and personal development. Burke and Serban (1998) point out that among the number of US states that use some form of performance funding, only two included an indicator related to student learning. Because of the weak measures of learning outcomes, government's ability to provide valid incentives for performance is limited and may have dysfunctional effects. Poorly designed performance measurement may lead to risk-avoiding behavior among institutional administrators and academic personnel and cause them to under invest in academic quality improvement over time (Jongbloed and Vossensteyn, 2001). For example, using graduation rate as an indicator of a universities' performance may encourage institutions to lower academic standards or make them more reluctant to accept higher-risk students, which conflicts with the public goal of increased access (Cave, et. al., 1997).



Recent US research has revealed some of the dysfunctional impacts of poorly designed performance indicators. The state of Ohio attempted to improve academic quality by monitoring the time faculty members spent teaching (Colbeck, 2002). Universities responded by changing the way they reported faculty time use to the state. In one university administrators simply lengthened the time assigned to each class by 10%. The frequently cited Tennessee Performance Funding Initiative (Fairweather and Beach, 2002), which offered supplements of up to 5.45% over university operating budgets for institutions that demonstrated improvements in student learning and increased program quality, has not increased faculty efforts to improve academic quality. The performance measures used focused on indicators such as graduate job placements, pass rates, or scores on professional licensure tests, rather than changes in teaching and student learning at the department level. Improvement funds were also awarded to the central university rather than to academic departments demonstrating quality enhancements and these supplemental funds were often expended on activities not directly related to undergraduate instruction. University administrators also attempted to shield faculty members from the burdens of complying with the program, as a result most of the faculty members supposedly affected by the performance indicators were unaware of their very existence.

Finally, in addition to the mentioned measurement problems associated with government performance indicators of academic quality there is the additional problem of the structure of quasi-markets. Because these markets are monopsonistic, rather than truly competitive with many suppliers and consumers, there is the possible danger of "government failure" (Wolf, 1993). When government is the single "buyer" those responsible for defining and monitoring appropriate measures of academic quality may choose to pursue private organizational goals or particular personal biases rather than the public interest. Or the government agency may be "captured" in the sense that those being monitored gain control or significant influence over the monitoring agency and alter the performance indicators to favor their own interests over those of the broader public (Baldwin and Cave, 1999). As a consequence the expected innovation and efficiency benefits from market competition may not materialize. For these reasons it is important to explore in greater depth the informational problems associated with truly competitive higher education markets, particularly students' choice of academic programs and insufficient incentives for faculty cooperation to improve academic quality.

#### **Under-Informed Consumers**

In contrast to the principal-agent problem of government as a monopsonistic purchaser is the asymmetric information problem in a higher education market of many suppliers and consumers. Here we encounter the question of whether potential students and their families have sufficient information about academic quality to make an economically rational decision about which university to attend. Economists have been generally chary about surveying students to learn how they form expectations about college choice.<sup>16</sup> However, as a guide to the possible information imperfections in the consumer market of higher education, it is possible to ask a more limited question of students. That is, what types of information on academic quality do students use to choose the program or university in which they enroll and do existing measures permit students to successfully differentiate between institutions on the quality of learning? This question has been pursued in a



<sup>&</sup>lt;sup>16</sup> For a particularly insightful exchange on this issue, see the paper by Manski (1993), which includes a comment by E. A. Hanushek.

number of studies in both the US and UK. Because of the different structures of the higher education systems of these two countries, we separately review this research, although there is much overlap in the relevant studies.

From an economic perspective, the potential university student may be conceived as a rational investor in human capital who is evaluating the costs and benefits of attending a particular university.<sup>17</sup> In assessing these relative costs and benefits students utilize a variety of information. In the case of the UK a national survey (Connor, et. al., 1999) indicates that the most important factors influencing the choices of applicants to full-time university education are the course or subject, academic quality -- particularly teaching reputation, entry requirements, employment prospects for graduates, location, available academic and support facilities, social life, and costs of study.

Information on the academic course or subject has consistently proven the most influential on student choice in the UK (Carrico, et. al, 1997; Connor, et. al., 1999; Moogan, Baron and Harris, 1999). This obviously reflects the structure of higher education outside North America, where first degree students apply to and enroll in a particular subject or field. In assessing academic quality university reputation was a factor often mentioned (Connor, et. al., 1999; Moogan, Baron and Harris, 1999), but applicants generally placed little importance on research quality and instead sought information on teaching reputation.<sup>18</sup> This clear distinction between teaching and research quality may be more common to UK consumers, because of government required program assessments respectively of research and teaching quality in universities. In terms of the value-added by university education, the most relevant information sought by applicants was graduate employment prospects.

The applicants also reported that the most used and most useful sources of information in declining order of importance were university prospectuses, visits to universities, and a handbook on university programs published by the University and College Admissions Service (UCAS). Following these documents, applicants listed various "advisors" as most useful: personal contact with a schools' career advisor, current university students, university staff, and various staff members at their school. About half of the applicants had read the commercially published league tables of universities and about 40% also used the ratings of teaching quality and research upon which these rankings are based. Students reported some vagueness on what these published quality assessments actually revealed and relied more upon parents, other students, and employers to gauge academic reputation. Higher ability and higher social class applicants as well as ethnic minorities used league tables and quality assessments more than other applicants, but overall quality rankings were viewed as of below average influence and were not listed among the most useful sources of information by the survey respondents. At the time of the survey, IT-based sources of information were used by less than 30% of the applicants. While the surveyed applicants reported that they were not overwhelmed by the large amount of information available, they did desire information about particular academic programs and universities that was more focused and



<sup>&</sup>lt;sup>17</sup> As Hoxby (2003) emphasizes, massification of higher education has altered the nature of the discussion. From a human capital standpoint the critical choice is no longer whether to attend university, but which university (and/or program) to attend.

<sup>&</sup>lt;sup>18</sup> Interestingly, minority university applicants in the UK gave much greater weight to teaching and research reputation as well as graduate employment prospects than did applicants as a whole.

less-one-sided. Although there is a great deal of government defined and published data about UK universities, applicants still had concerns a bout the quality and accuracy of information provided by some institutions.

Based upon the survey the researchers (Connor, et. al., 1999) also made recommendations for improving consumer information for university choice. With relevance to academic quality, they called for regular, independently validated, information about courses and institutions so as to discourage reliance on less reliable and anecdotal sources. More information was desired on the work and other experiences of those graduating from different types of programs. Although IT-based information had been little used by the applicants in this sample, the researchers also called for the use of more interactive formats of information that would permit consumers to personalize their search for information.

The extensive research on college choice in the US suggests that the institutional factors important for US students and parents in choosing among colleges are primarily the academic program (major area of study), tuition costs, financial aid availability, general academic reputation/general quality of institution, location (distance from home), college size, and social atmosphere (Hossler, Braxton, and Coopersmith, 1989; Manski and Wise, 1983; Paulsen, 1990; Zemsky and Oedel, 1983).<sup>19</sup>

In an annual survey of entering students "a good academic reputation" is the reason given most frequently by freshmen in selective colleges for having chosen the institution in which they enrolled (Litten, 1991). However, perceptions of the academic reputation of an institution have been found to be most highly related to institutional admissions selectivity, as measured by average student test scores (Grunig, 1997; Paulsen, 1990), and to indicators of research activity as well as doctoral program rankings (Astin, 1985; Grunig, 1997). Therefore, it is debatable as already noted whether information on "academic reputation" in the US will promote student choice that is efficient for society. In contrast, Litten and Hall (1989) examined how a sample of high ability students and their parents defined quality in colleges. They identified the following among the leading indicators: high admissions rates of graduates who apply to top graduate and professional schools, students who were high achievers before college (i.e., institutional selectivity), surveys showing graduates were satisfied with the college, high starting salaries for graduates in the fields that interest them, and faculty who spend as much time teaching as doing research. In a subsequent set of focus-group interviews with high school students in Indiana and Massachusetts, Hossler and Litten (1993) discovered that over 25% identified the following as extremely or very important characteristics for choosing a college: advantages in getting a job, advantages gained in admission to advance degree programs, learning/intellectual development students achieve, students' psychological development (value formation), students' social development, and income of graduates. These latter characteristics and indicators include a number of process and outcome measures that come closer to addressing the "value added" concept of academic quality.



<sup>&</sup>lt;sup>19</sup> Reflecting the unique US collegiate culture there is also the belief that intercollegiate athletic success has a positive affect on the volume of institutional applications. Toma and Cross (1998) discovered that winning a national championship in football or basketball subsequently translated into increased applications for major universities, but they did not control for applicant quality. Zimbalist (1999) also finds evidence for a modest relationship between athletic success and applications, but finds no evidence that athletic success increases a university's average student test scores or its yield on admissions.

Research on the sources of information considered by US applicants suggests some of the limitations of published information. The most frequently used sources were in fact college catalogues, campus visits, school guidance counselors, students already enrolled in college, and college admissions officers (Paulsen, 1990). Commercial college rankings or league tables are used primarily by students of high achievement and social class (McDonough, Antonio, and Perez, 1998). There is evidence that the information provided in different college guidebooks about the same institution is often inconsistent and even contradictory (Hossler and Litten, 1993). Most of the available guidebooks also failed to provide information of particular interest to college applicants, such as student outcomes and student educational experiences. In addition, the visibility of US college rankings based upon prestige or reputation also appears to be encouraging institutions to "game" the market in order to better position themselves on the proxy measures of academic quality currently employed (Ehrenberg, 2002). Universities have attempted to manipulate information on average entering student test scores by dropping out the lowest scores, not reporting the scores of international students, or by making the tests optional for admission. In the latter case, only students with high test scores are likely to report them and applicants with lower test scores will now more likely apply. Thus the relevant colleges should be able both to increase their average test scores and increase their admissions selectivity. A number of colleges and universities have also adopted early admissions plans for students who will make a commitment to a particular institution. Because almost all early applicants eventually enroll, such programs lower the fraction of total freshman applicants that need to be admitted and also increases the institutions' "yield" rate, both of which improve the college's selectivity.

Hossler and Litten (1993) reviewed the overall provision of information on academic institutions in the US. They noted that virtually all of the published data on colleges and universities, whether collected by government, or by the publishers of guidebooks and commercial rankings, are supplied by the institutions themselves and that no independent source of verification exists:

When colleges compete for students via the information they provide and the public must rely primarily upon this information, we find it intolerable that some form of audited and certified information, as precise and objective as our financial audits, is not available. (p.78)

They suggest the development of standardized data gathering instruments, including questionnaires completed by current college students and alumni that would permit an objective comparison of institutions. Most needed was information on student educational experiences and outcomes. Among the types of information recommended were student satisfaction, as measured by senior and alumni surveys, the percentage of graduates who enroll in advanced degree programs, and information on the occupations and incomes of program graduates.<sup>20</sup> They recommend that the data be subjected to third party verification. For example information on university applications, admissions and enrolment could be reviewed as part of financial audits and the information in college prospectuses on program offerings could be verified as part of accreditation reviews.



<sup>&</sup>lt;sup>20</sup> Note that the only country where this type of information is currently readily available to student consumers is Australia where government policy requires universities to conduct surveys of current students and graduates, i.e. the Course Experience Questionnaire and the Gradate Survey.

The collected research on college choice in the UK and US offers some support for the view that consumers associate academic quality with the knowledge, skills, and values to be gained through a university education. In both countries, however, despite the growing number of guidebooks, league tables, and other publications designed for the higher education market, there still appears to be inadequate comparative information on the academic quality indicators of interest to students. Quality information tends to focus on the uni-dimensional concept of academic reputation or prestige, which is highly influenced by factors other than the quality of undergraduate instruction. Insufficient information is available on student outcomes and the quality of students' educational experiences in different programs and institutions. There is also evidence, particularly in the US, that imperfect information on academic quality offers some potential for increasing the efficiency of higher education markets, but there is some question as to whether this information will be provided without government intervention.

#### **Ignorant Professors**

In the preceding sections we have reviewed the empirical evidence on efforts to improve academic quality by providing relevant information to the buyers and consumers of higher education. In this section we will discuss a more speculative cause of market failure in higher education – ignorant professors. We will suggest that the current institutional framework of academic work provides insufficient incentives for academic quality improvement within universities. Consequently, information provision to consumers and/buyers may need to be supplemented by incentives for the development of institutional-based information and quality assurance mechanisms that, with regard their basic educational processes, help to make universities more effective learning organizations (Dill, 1999a).

Those advocating information provision as a remedy to uncompetitive markets assume that over time the demands of better informed consumers will increase the incentives for producers to decrease the costs of higher education and generate greater innovation and quality. But given the nature of student consumers, the difficulties of effectively measuring student learning outcomes, the constantly changing nature of academic knowledge, and the deeply ingrained traditions of academic freedom and specialization in higher education, there is reason to question whether demands from better informed consumers alone will be sufficient to motivate quality improvement. In a classic analysis of universities, Cohen and March (1986) argued that they were prototypical "organized anarchies." That is, they did not know what they were doing! An important contributor to organized anarchy in Cohen and March's (1986) formulation was poorly understood technology. Professors possessed a weak understanding of the core production process whereby incoming students are transformed into educated graduates and therefore improvements in teaching, student learning, and academic productivity were fitful and uncertain. More recent research by Massy (2003) suggests the continuing confusion about and lack of interest in academic productively among the US professoriate. This ignorance is reflected in the continually increasing costs of US higher education, which regularly exceed the rate of inflation and growth in medium family income.

AQ Public Policy for Academic Quality Research Program The nature of the core processes of academic production differ between teaching and research. While more difficult, it is still possible in many fields for a single investigator to make a substantial discovery or contribution to research or scholarship. However, in the case of student learning, the quality of a student's academic experience is best conceptualized in an interdependent manner that is greater than the sum of the activities of individual teachers in separate classrooms (Ewell, 1988). The research on teaching and learning in higher education reveals that while what students learn is related to the quality of individual teaching they receive, it is also closely associated with what may be termed the *academic coherence* of the curriculum (Dill, 1999b). That is, student content learning and cognitive development is affected by the nature and sequence of their curricular experiences as well as by the extent to which the curriculum faculty are collectively involved and communicating with each other about the substance of teaching and the student's education experience (Pascarella and Terenzini, 1991). Therefore more systematic efforts to improve the quality of learning outcomes will likely require cooperative actions by faculty members to "restructure" the curriculum, to redesign course sequences and requirements, and to better coordinate their individual efforts at instruction in order to achieve greater academic coherence.

The primary unit for improvement in teaching and student learning in US universities is the academic department. Departmental meetings, committee work focusing on teaching and curriculum, and other face-to-face informal interactions among colleagues facilitate both the detection of ineffective education as well as the communication of norms and behaviors supportive of quality teaching and student learning (Braxton and Bayer, 1999). Field research at the departmental level in US universities (Massy, Wilger, and Colbeck, 1994), however, has uncovered a pattern of "hollowed collegiality" in which departments nominally appear to act collectively, but avoid those specific collaborative activities that might lead to real quality improvements in academic programs. For example, faculty members readily reported informal meetings to share research findings, collective procedures for determining faculty promotion and tenure, and consensus decision making on what particular courses should be offered each term and who should teach them. But:

Despite these trappings of collegiality, respondents told us they seldom led to the more substantial discussions necessary to improve undergraduate education, or to the sense of collective responsibility needed to make departmental efforts more effective. These vestiges of collegiality serve faculty convenience but dodge fundamental questions of task. This is especially the case, and is regrettable, with respect to student learning: collegiality remains thwarted with regard to faculty engagement with issues of curricular structure, pedagogical alternatives, and student assessment (Massy, Wilger, and Colbeck, 1994, p. 19).

The researchers suggested that a major contributor to this observed pattern of fragmented communication were academic beliefs about individual autonomy and academic specialization that have led to atomization and isolation among faculty members. Faculty members not only do much of their teaching alone, but because disciplinary sub-fields are defined quite narrowly, many faculty members find it almost impossible to discuss their teaching with one another.

The prevailing norm of academic individualism may therefore impede the systematic monitoring or measuring of student achievement that is crucial to the improvement of academic quality. Without public information about the value-added by an academic program there are insufficient incentives for individual

faculty members to enter into the coordinated activity necessary to produce academic programs with the academic coherence and structure research suggests is associated with student learning. The improvement of academic quality thereby represents a classic dilemma of collective action.<sup>21</sup>

Why does cooperative activity among faculty members to improve the quality of academic programs not now spontaneously occur? Game theory would suggest that individual faculty members already work within a context that should encourage cooperative activity in the design and improvement of academic curricula. These conditions are (North, 1990): 1) that individuals have repeated dealings with one another; 2) that individuals possess information on the other players; and 3) and that individuals deal with a small number of other people. Under these conditions cooperative behavior for joint gain should theoretically occur. But game theorists have also identified an additional condition necessary to sustain cooperative behavior, that is, the ability to calculate collective costs and benefits. Thus, if a measure of the value-added to students by an academic program is not available, then individual faculty members will base their decision on the amount of time to commit to cooperative activity in teaching and curricula improvement on the individual costs and benefits to themselves. The benefit of cooperating with other faculty members in the design and implementation of higher quality academic programs will therefore receive little or no value. By the same logic, faculty members also have few incentives to invest time and effort in developing or maintaining measures of the value-added by academic programs, as a consequence the decline or rise of academic standards in subject fields remains largely invisible to academic eyes.<sup>22</sup>

Academic administrators often contribute to this problem by adopting what Massy (2003) has termed an "invisible hand" approach toward academic quality improvement. That is, they actively encourage the recruitment of the best students and faculty members and feel that they have thereby met their responsibility for improving academic standards. Countries such as the UK, Hong Kong, and Sweden that have systematically reviewed the mechanisms for maintaining academic standards in different academic subject fields, however, have discovered substantial variance in the means employed for assuring academic quality across units within the same university (Dill, 2000). When these variations were revealed to deans or university administrators with authority over the relevant programs, the administrators often indicated that they were ignorant of these

<sup>&</sup>lt;sup>21</sup> The lack of university-based information on the value-added by higher education has been identified by US state policymakers as an important problem. By 1990 over two-thirds of the states had passed regulations encouraging public institutions of higher education to implement various forms of "student assessment" programs designed to place greater institutional attention on the improvement of student learning (Ewell, 1997). Ultimately, all five regional accrediting bodies also adopted an assessment criterion as one of their criteria for reviewing institutions of higher education. However, this effort appears to have had a limited impact on faculty behavior. A national survey provides little evidence of a sustained commitment by institutions or academic programs to using student assessment information to improve student learning (The Landscape, 1999). Less than a quarter of the surveyed institutions reported that faculty members involved in institutional governance even supported student assessment activities and few institutions actively linked information on student assessment with improvement of the faculty's instructional approaches.

<sup>&</sup>lt;sup>22</sup> The UK and a number of other countries have a tradition of subject exams and external examiners that potentially provide the needed information and incentives for quality improvement at the subject level. However, the most comprehensive study of the UK examination system (Warren Piper, 1994) suggests that faculty cooperation in quality improvement and the maintenance of academic standards is being adversely affected by the increasing specialization of academic work as reflected in the development of modular forms of instruction and multidisciplinary programs.

differences. This lack of knowledge, and in many instances lack of concern, with observed variations in academic quality assurance processes within universities suggests that traditional beliefs about academic freedom and autonomy have encouraged administrators to abdicate their responsibility for assuring academic standards. As Rosovksy and Ameer (1998) argue, "academic freedom does not absolve colleagues or administrators from assuming responsibility for what are essentially matters of procedure, management, good order – and above all else – legitimate student needs" (p. 150).

In sum, there is some evidence that inattention to academic quality improvement within universities is caused not only by under informed consumers, but also by ignorant professors. Policies designed to provide better information to consumers and buyers may increase market competition for effective teaching and student learning. But it is likely that actual improvements in academic standards may also require policies that provide stronger incentives for cooperative faculty behavior on the development of effective quality assurance processes within universities.

#### Conclusions

As higher education markets develop within countries and expand around the globe, the extent to which market competition will prove efficient for society will depend upon whether the new framework provides sufficient academic quality or value for money. It is possible that increased competition alone will create greater incentives for institutions of higher education to constantly improve student learning. Some evidence from the US (Brewer, Gates, and Goldman, 2002), for example, suggests that while traditional institutions of higher education may compromise student learning in an effort to gain academic prestige, profit-making institutions have a greater incentive to compete on educational value added, since they cannot make money by contesting on reputational indicators such as student selectivity and academic research. On balance, however, based upon our review of the evidence on the information on academic quality currently available to buyers and consumers, we believe there a is a genuine potential for market competition in higher education to promote an inefficient "academic arms race" that will contribute to a market failure. This suggests the need for some type of government intervention.

We remain dubious as noted above that monopsonistic or quasi-market mechanisms, in which government buys or contracts for a particular level of higher education, will prove efficient in the long run because the potential for government misdirection of the higher education system and the substantial difficulties in validly measuring educational outcomes (Pascarella, 2001). It is possible that introducing institutionally-determined differential fee structures may promote sufficient consumer pressure for quality improvement that government contracting along with appropriate consumer information could then be effective in addressing potential failures in the academic market. However, our own view is that a more effective policy would combine better consumer information with enforced professional self-regulation as a means of quality improvement.

As governments increasingly use market forces to coordinate and steer their university systems, they will need to define the essential quality information to be maintained and reported by universities and make public subsidies conditional on the accuracy of the data.<sup>23</sup> Public policy can thereby improve the reliability of



<sup>&</sup>lt;sup>23</sup> See for example the work of the Performance Indicators Steering Group in the UK, which defined information to be provided on the nature and performance of the higher education sector (Bowden, 2000).

information for student consumers, whether provided by the commercial sector or the not-for-profit sector. In terms of the type of data to be provided information on subject fields and academic programs is of particular value to student consumers, even in North America where the structure of academic programs includes a strong emphasis on general education prior to the choice of a major field of study.<sup>24</sup> The types of program information publicly required of all institutions should include, at a minimum, entry standards for programs, program completion rates, the proportion of program graduates entering employment/professional training/higher degrees, the average starting salaries of graduates, and the satisfaction of graduates with their academic programs. While such information on academic programs is still not available in much of the world, it is obtainable for universities in Australia. The Australian government has required all publicly subsidized universities to conduct Course Experience and Graduate Surveys that make this type of information publicly available. In addition the new National Survey of Student Engagement (NSSE) (Kuh, 2003) in the US can provide information on how effectively colleges are contributing to educational value added though a number of process indicators that have been shown to be valid predictors of student learning. The public provision of NSSE data is now required for state-supported colleges and universities in a number of the US states.

Academics strongly object to the concept of regulation, especially as it relates to academic quality. But academic standards cannot be maintained or improved without some type of external control, a fact made clear when we routinely describe professional processes such as external examining and voluntary accreditation as self-regulation. The issue is not whether regulation is needed, but who is responsible for developing and implementing it. We believe that improved consumer information as outlined above along with "enforced selfregulation" (Baldwin and Cave, 1999) offers the greatest potential for addressing the causes of potential market failure in higher education we have outlined. Examples of such enforced self regulation could include existing academic processes such as external examining, or newly developed processes such as subject assessments or academic audits as they have evolved in the UK, Europe, and Asia. These processes, required by government but designed and implemented by the academic community, can provide public evidence that academics are meeting their obligation to assure academic standards (Cave, Dodsworth, and Thompson, 1995). Unlike the regulatory initiatives on student assessment in the US, there is some evidence that these external reviews of quality assurance processes and academic standards have helped address the collective action dilemma of academic quality within universities. They have helped promote greater communication among faculty members on the improvement of teaching and student learning, by challenging academics to provide the evidence of student learning upon which they are basing academic and resource allocation decisions and by strengthening the internal collegial processes by which academic standards are assured (Dill, 2000; Henkel, 2000).

Given the complexity and dynamism of academic knowledge, we believe professional self regulation is still likely the most effective safeguard for assuring academic standards in competitive academic markets. But given the rapidly increasing social costs of higher education and its growing influence on the life chances of our



<sup>&</sup>lt;sup>24</sup> Program or subject level quality information is of increasing importance to students. Entry qualifications can vary across subject fields in the same university, even in the US where entry to the subject field often occurs after enrollment in the college or university. Furthermore, the quality of the student learning experience, graduation rates, student satisfaction, employment prospects, and even lifetime earnings are apt to vary significantly by subject field within the same university. Therefore, quality rankings based upon average data for the university as a whole not only misrepresent the experience for particular subject fields, but fail to provide the academic quality information most desired by student consumers. Finally, the public provision of quality information by program will reveal differences among them that may create incentives for institutional administrators and faculties to make improvements.

citizens, we seriously question whether reliance primarily on "trust" in the academic profession (Trow, 1996) is a feasible option for assuring the efficiency of the system. In our view there needs to be more valid and reliable consumer information on academic quality available as well as public evidence that universities take self regulation of academic standards seriously and that existing professional processes designed to assure academic quality in fact promote student learning.

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