

The limits of market reform in higher education*

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Abstract

In the last two decades the dominant policy model in higher education has been the NPM market model. Most national governments have introduced reforms such as corporatization of institutions, intra-system competition, entrepreneurship, private income raising, contractual planning, output formats, performance reporting, accountability and audit mechanisms. Some features of the model such as competition, output formats and increased private funding have been widely adopted. But functioning capitalist markets have not and will not be created. Commercial tuition markets have been created only in marginal vocational training, and international education. WTO-GATS driven trade liberalization has stalled. Research remains largely in the public domain. The NPM market model is a cul-de-sac. It is blocked by the economic social character of higher education and research: the public good nature of knowledge, the indirect character of most of the economic effects of education, and the character of status competition.

Keywords

higher education, education markets, competition, public goods, new public management, private funding, accountability, research policy

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Introduction

In managing higher education systems, most national governments now use a variant of the new public management (NPM) market model as their guide to policy. This model rests on a neo-liberal conception of public administration and education which derived originally from Milton Friedman and F.A. Hayek (Hayek, 1960; Friedman, 1962). The practical governmental mechanisms were first developed by the 1980s Thatcher governments in the UK (Marginson, 1997). The goal of NPM market reform is to remake educational institutions as business firms producing economic products within an open competitive market. The reform objective is sustained by critical reflexivity and an is/ought ambiguity (Gordon, 1991). The NPM market model is treated as both a goal to be achieved and a description of actually occurring higher education systems, as in the customary description of American higher education as a 'market' regardless of its empirical features. The NPM market model is presented as the normal and expected mode of operation. Real world education systems are compared to the ideal model using polemical descriptors (for example 'taxpayer inequity', or 'producer rents') combined with quantitative economic measures (for example the projected lifetime earnings to degree holders). Where there are differences between real life higher education practice and the ideal NPM market model – where higher education system have failed to achieve the forms of a fully evolved capitalist economic market - this suggests the need for reforms to close the gap. In this manner the NPM model functions as a template or framework to guide policy. The critical reflexivity is intrinsic to the model and provides it with momentum for continuous transformation until the goal is achieved.

Though this policy framework has been subjected to repeated critique,¹ after two decades it remains hegemonic in the economic ministries which tend to dominate education ministries in government. NPM-inspired reforms continue to emerge. Moves such as the selective deregulation of vocational programs, the substitution of tuition increases for part of government funding, competitive bidding for state projects, performance-based contractual negotiations between government and public institutions, and more comprehensive output and 'impact' measures in research, all of which take higher education towards the NPM market model, are routine to governments. But the passage of time is a useful resource that enables a new question about the NPM market model to be posed. Certain NPM features have been installed in most national systems. Certain systems have adopted most features of the model. But NPM market reform has failed in its essential project, the creation of functioning economic markets in higher education. Why has the ultimate goal not been achieved, especially in those higher education systems where NPM reform has gone deep, such as the Westminster countries (UK, Australia, New Zealand), part of Eastern Europe and Hong Kong SAR in China? And if the ultimate goal will not be achieved, so that NPM

¹ An extended critique and discussion of other critiques is provided in Marginson, 1997.

critical reflexivity can never be satisfied, what is the point of the continuous piece-meal market reforms? Is half a loaf truly and continuing hunger truly better than none? Might not another policy serve better?

The goal of this paper is to explain the failure of the NPM market model. The paper is another critique of the model; but unlike previous critiques it does not focus on the assumptions of the model, nor its potential social consequences. It focuses on the failure of implementation.

A second problem of the NPM market model is that it is nation-bound. Again, the passage of time has highlighted the deficiency. The model was developed prior to the communicative globalization triggered by the Internet and the subsequent growth of global knowledge flows and networks, and global referencing and ranking, that have transformed the higher education sector (see among others Held, et al. 1999; Castells, 2000; Marginson and van der Wende, 2007; Peters, et al., 2009). Arguably all research intensive universities, and some other institutions, are implicated to a growing extent in the global dimension of higher education. This global dimension is heterogeneous to the national dimension (Marginson & Rhoades, 2002; Marginson, 2010). It cannot be fully understood, controlled or reformed in the terms of an NPM market model. There is no comprehensive global market in higher education, or global policy space. Nor can the global elements be marketized or controlled using one nation-based NPM reform. The concerted attempt to create a global market in education services through the WTO-GATS negotiations has been unsuccessful. Among the global factors that make a single nation NPM market model unworkable is the leakage of economic values from the national dimension into the global dimension. For example, when graduates take their labour abroad, the value of their human capital is captured by other national economies. Something similar happens when basic research is sourced by companies from other nations that use it to develop saleable intellectual property. In addition such research knowledge can be freely accessed in scientific publications or Internet sites disseminated on a global basis. It is not possible to create buyer/seller relations and price signals comprehensive of all research activities in a single country for this reason alone.

The trajectory of the WTO-GATS process and the open source aspect of knowledge are discussed below. However, the paper will concentrate largely on the first problem of the NPM market model, its failure of implementation. Arguably, in the absence of the national/global problem the model still fails.

The NPM and economic markets

In the NPM market model public higher education institutions are corporatized so as to more closely resemble private firms in their organizational design and culture. In some national jurisdictions the process has been extended to formal legal definition as private institutions (e.g. the UK) or a major enhancement of the role of private entities within the national system (e.g. universities in Chile, and

training colleges in Malaysia and Australia). Institutions are encouraged to raise their own income. In the ideal form of the NPM market model they charge tuition at commercial rates and their objectives are to maximize revenue, market share and unit profit. Institutions become attuned to the desires of students as consumers (clients, customers) through student choice of institution, mediated by product quality and price. Institutions market themselves and their programs and are subject to quality assurance. Their products are open to objective description and quantification, enabling performance monitoring and reporting. Incentives to perform are economic. Institutional leaders, who are modelled as entrepreneurs, pursue the economic ends of their institution as the primary end, rather than the public good for its own sake. Likewise their employees are driven not by mission (love of teaching or students, or desires to make discoveries or solve social problems through research) but by pay incentives and career goals. Customarily the NPM market model also includes a range of business-like and market-type mechanisms such as prospective contracts between government and institution in relation to outputs, product diversification, brand development and management, due diligence and risk management processes, audit of performance against prior objectives, and the competitive ranking of outcomes.

The typical NPM reform package includes corporatization reform, growth in student fee-charging (often accompanied by reductions in government support to encourage income raising), an expansion of the role of private institutions; encouragement of commercial business activity in research; the creation of competition for parcels of government-provided resources, and output modeling. Some countries have deregulated parts or all of vocational and international education so that commercial fees can be charged. Through performance and output modelling, the complex real world activities of higher education institutions become de-bundled as quasi-market commodities, distinct products with their own clients, lines of accountability and efficiency measures. Larger aggregated outcomes, such as the contribution of liberal education to citizen formation, or the long term effects of basic research, fall out of the picture.

As numerous scholars have pointed out NPM reform is associated with a transition from direct bureaucratic controls to system management on the basis of 'steering from a distance' using a mix of competitive incentives, planning and audit mechanisms, and goal and output specifications. As the same scholars often also state, the NPM is associated with more effective central control (see among others Teixeira, et al., 2005; de Boer, et al., 2009; and Mok, 2009). The actual mix of mechanisms and implications for coherent NPM system varies from country to country.

Constituents of an economic market

Only some of the above features of NPM systems are essential to a self-functioning profit-oriented economic market in higher education. At the minimum such a market requires the following elements:

- a field of production, constituting the boundary of the market (defined geographically as national, regional, city-based or global; or defined in terms of institutions, products or clients);
- protocols governing entry/exit of producers in the market;
- the production of scarce and individualized commodities, i.e. goods or benefits that can be described in output formats and constitute private goods in the economic sense (see below);
- monetary exchange, and price-based coordination of production and distribution;
- the generation of unit revenues surplus to unit costs, that is, the category of profit;
- competition between autonomous producers for revenues, and market share;
- deregulation of direct policy controls and ideally, a shift from public institutions to privately owned institutions;
- human behaviours appropriate to economic markets such as entrepreneurship, the drive to extend and expand production, the drive to reduce unit costs of production, consumer shopping, etc.

To what extent have NPM markets been implemented?

When these core features of an economic market are compared to actual existing higher education systems, it is evident that nowhere have the expectations of 1980s neo-liberal reformers been met. There are individual institutions that are capitalist businesses as imagined by the model, but there is no example of a functioning capitalist market that takes in the mainstream of degree-level higher education, meaning first degrees and basic research, in all institutions. Further, with a tiny number of exceptions the leading comprehensive higher education institutions in all countries continue to be non-profit institutions.

Certain features of the NPM market model have been widely adopted. In some countries the notion of higher education as a business, and the use of business-derived terminology in its management, are widely though not universally accepted. A second feature is the use of field boundaries, though sector boundaries in higher education mostly pre-date the NPM. Third, there is competition between institutions for at least some private and public revenues. Competition for prestige is long-standing in higher education, but in the NPM reform period, economic forms of competition have become more important than before. A fourth feature that has become widespread is the use of product formats to describe teaching (student places, graduate numbers) and research (projects and publications), though these product formats are used as actual market commodities only in rare instances. A fifth feature is entrepreneurial behaviour. Some executive leaders exhibit this, and for part of that group economic revenues per se are the primary motivating factor (Clark, 1998; Marginson & Considine, 2000).

However, that is it. The deviations from the NPM market model are more significant than the adherences to it. Teaching and research will be considered in turn.

Teaching

Few higher education systems offer free market entry to potential universities though in some countries entry into vocational training is more liberal. In relation to product, all systems produce private goods, to the extent that at least some student places confer income earning and/or status building advantages. However, these private goods are rarely produced and sold as full cost market commodities. Full blown market exchange does not exist in the mainstream university education of domestic students in leading comprehensive universities, with the exception of a small number of students in a handful of national systems. In almost every case, the first degree education of citizens is subsidized by governments and/or private philanthropy, largely the former.

Organization for Economic Cooperation and Development (OECD) data for 2006-2007 in *Education at a Glance* (OECD, 2009, pp. 242-260) demonstrate marked variation between countries in tuition arrangements, suggesting tuition is policy determined not market-driven. Tuition charges mostly fall well below costs. The provision of higher education is dominated by public institutions and government-dependent private institutions. The proportion of students enrolled in independent private institutions, which are mostly non-profit institutions, exceeds 30 per cent only in Poland (32.3 per cent), Mexico (33.9 per cent), Japan (75.7 per cent) and Korea (77.9 per cent). In the United States the proportion is 28.4 per cent (OECD, 2009, p. 306). In the five Nordic countries, Ireland, the Czech Republic and Turkey, students in public institutions pay no fees. In one third of the OECD countries public institutions and government-dependent private institutions charge local students in excess of USD \$1500 per year (OECD, 2009, p. 242), and fees in independent private institutions are higher. But most local students have access to subsidized tuition loans or other support. Japan and Korea exhibit relatively high levels of household expenditure on higher education, but ‘cost sharing is extensive and broadly uniform across students’ (OECD, 2009, p. 250). Even in the United States few students in either public or private institutions pay the full ‘sticker price’ for first degree education because of public and philanthropic subsidies. On average the American student pays less than half the unit cost of tuition (Winston, 2003). There is no market for cars, washing machines or financial security where the average consumer pays half the cost of the product.

In the ideal market state controls are deregulated as far as possible and the consumer is sovereign. In higher education government is a full presence and there is no strong evidence of buyer power. In most nations the number of students in each public institutions is determined not by demand and supply but by government and institutions. Student choice of institution is constrained by limited places in each institution and academic competition for entry. High status institutions have limited places and are over-subscribed. Thus they are under little economic pressure to meet the requirements of ‘customers’; though

they may respond to students to maintain status. The operations of economic competition are framed not by the interaction of supply and demand mediated by price signals and buyer/seller relations, but by government, which sets arbitrary prices or limits on prices and uses political and social criteria as well as economic criteria in doing so; and ‘holds the ring’ for competitive bidding games and formula-based allocations of monies based on performance in competition with all institutions. Government sets the rules of competition and ostensibly steps back. The competitive process is represented as neutral in intent and form. But game setting and formula setting are readily manipulated to secure policy outcomes. However presented, these processes incorporate blatant policy choices and bear little relation to competition in a deregulated economic market.

In the absence of market prices and full producer dependence on revenues from ‘customers’, prices and revenues do not drive allocative efficiency. Significantly, the vast majority of higher education institutions are not profit maximizers. The fundamental driver of a capitalist market, the autonomous profit motive, is largely absent from mainstream first degree education of local students. Nor are higher education institutions volume maximizers. Few expand production to meet effective demand; enabling a larger market share, revenue base and surplus; and improved economies of scale; in the manner of an ordinary business. The laws of motion of higher education diverge from the market model.

The exceptions to these generalizations are the bona fide commercial institutions and commercial sub-sectors in higher education. On an international scale these are a numerous minority. But in every case they are subordinate or marginal to the dominant socially recognized forms of higher education. There are three main types of commercial institution. The first is low status private universities in countries such as Brazil, the Philippines and Japan. These are profit maximizers, though their scope within the total sector is modest. There is also a very small number of high status commercial institutions, but these do not seek to maximize profitability. In Japan the stellar private institutions led by Keio and Waseda are not marginal. But notwithstanding their formal legal character, these are not commercial businesses as that notion is generally understood. They have more in common with the elite non-profit liberal arts colleges and private universities in the United States than bona fide commercial institutions. Like the American non-profit private sector their main objective is not to generate profit for stockholders, or even revenues per se, it is to secure social leadership and prestige. Second, parts of vocational training operate commercially in numerous countries, including the English-speaking world. A notable example is the University of Phoenix, the largest private university in the United States, which works a niche market in middle level business studies and professional training for working clients who dropped out of mainstream education before completing a college degree. Phoenix has succeeded because it built a market on the margin of mainstream higher education. It has not sought to compete directly with the non-profit providers. The third example of commercial higher education is full fee profit making education of

international students in the UK, Australia, New Zealand, Malaysia, Singapore, China and a small number of other countries. Approximately one third of the students who cross borders for higher education do so within the commercial zone which is the fastest growing part of international education. For-profit international students enrolled in universities study alongside non-profit local students in the same classes. The international students provide supplementary revenues that help sustain the non-profit operation. They do not shape the nature of production, although when they are in large numbers relative to the local student population, as in Australia, they can affect the developmental priorities of institutions.²

The WTO-GATS process

The WTO-GATS negotiations are designed to create an open global trading regime in designated services sectors, including educational services (OECD, 2004a; OECD, 2004b). The intention is to open the policy settings governing national systems so as to encourage commodity-production, enterprise and trade. The reform agenda developed out of successive rounds of global trade talks. It defines four aspects of cross-border educational provision: cross-border supply, for example online education; consumption abroad, for example students who cross borders to access education; commercial presence, for example transnational education; and movement of natural persons, for example temporary migration as a guest worker or education provider. It also distinguishes the different sectors of education, including higher education. In the GATS round nations are expected to negotiate with each other to establish free trade in these areas, or adopt a general regulatory regime to the same end, registering their position with the WTO. The process also offers them the option of exempting some or all parts of their education systems on grounds of 'national treatment'. A nation can agree to create free trade in, say, English language teaching programs, while maintaining national treatment for research universities. The prima facie bias in favour of trade deregulation meant that a separate case for exceptional treatment has to be made in each case.

However, in the outcome a large number of nations have deregulated market entry in just one area, on-line delivery of programs (where national governments cannot control cross-border delivery in any case). The limitation of the WTO-GATS process is that most national governments do not want higher

² Nevertheless higher education is a large sector and even peripheral commercial markets can constitute a significant business. The value of international education is estimated at USD \$40 billion plus worldwide and seems to be largely recession proof. In Australia, the extreme case of the growth of this market viz a viz local education, education export generates about \$12 billion USD per annum in student fees and spending on accommodation, transport, food and other consumption (ABS, 2009). Education is the third largest Australian export after coal and iron ore. There are 530,000 foreign students in Australia, equivalent to 2.5 per cent of the Australian population. China is the largest importer, i.e. the largest supplier of foreign students to Australia, followed by India, Malaysia, Singapore and Indonesia. Foreign student fees provide 15 per cent of the direct revenues of Australian universities and constitute 26 per cent of all enrolled students (DEEWR, 2009). The international education industry is fully commercial, with competitive marketing and recruitment, a service rather than product orientation, and regulation via consumer protection laws and quality assurance. International education in the UK and New Zealand are similar.

education to be wholistically remade as a tradable commodity. Unlike other areas the subject of multi-lateral trade negotiations, such as agriculture and financial services, most of education is produced in non-commercial settings and not deployed for the direct creation of economic revenues. Further, all governments want to retain policy control of the national education and research sectors, which are seen as strategically significant to national economic competitiveness and development, and cultural identity. Entry to foreign providers continues to be restricted in most countries and local institutions and/or their students have continued to benefit from public subsidies unavailable to foreign or commercial providers. Market-based providers are unable to compete economically against mainstream subsidized institutions. Export nations such as Australia and the United States called for deregulation in other countries but showed no interest in creating a level playing field for foreign providers in their own systems. The WTO-GATS process has led to little change in the status quo. Where there are commercial arrangements governing international education these have been largely unaffected by WTO-GATS.

Research

Since the late 1980s/ early 1990s national governments have sought to foster a commercial market in intellectual property and establish a client relation between university research systems and industry. In many countries the policy settings in higher education have been adjusted so as to drive a partial shift of university research activity from basic research programs that are curiosity driven and controlled by faculty, to commercial research and applied research expected to generate commercializable products in which university research companies or external clients have played the driving role.

In the outcome there has been significant development of university research companies, patent regimes and university research for industry. In higher education in some countries there has been a partial shift away from basic research programs towards commercial and commercializable research projects often of shorter average duration (e.g. for Australia see Cutler, 2008). Public research funding is distributed on a competitive basis and via quasi-economic performance formulae that reward policy-determined outputs such as patents, publications and doctoral students with additional monies. However, after two decades of policies and incentive systems based on the NPM market model the proportion of the actual cost of university research paid by business and industry is little more than 5 per cent, even in the United States which has the most dynamic commercial R&D sector. Most universities have to subsidize their commercial research companies. Basic research funding is sourced from government and to a lesser extent philanthropy. Much of the production of commercializable knowledge in universities is also publicly subsidized and shaped by policy, not demand, supply and market prices. Again, competition and university-industry relations primarily take the form of quasi-market simulacra, not bona fide markets.

Despite the growing knowledge-intensity of production in manufacturing and services, and the weight of R&D activity outside the universities in many countries, given the explosion in open source knowledge via the Internet (webometrics, 2009) it is possible that in higher education the relative role of non-commercial research and dissemination has increased (Marginson, 2009). The OECD now argues that the principal role of higher education in research and innovation lies in the production and dissemination of ‘open science’ not the direct production of marketable knowledge. ‘A common criticism of commercialization is it takes at best a restricted view of the nature of innovation, and of the role of universities in innovation processes’ (OECD, 2008, Vol. 2, p. 120). The strengthening of intellectual property rights (IPRs) ‘contains a number of problems’. For ‘commercialisation requires secrecy ... whereas universities may play a stronger role in the economy by diffusing and divulging results. It should be remembered that IPRs raise the cost of knowledge to users, while an important policy objective might be to lower the costs of knowledge use to industry’ (OECD, 2008, Vol. 2, pp. 102-103). Further, universities rarely have the capacity to maintain long patent chains on a comprehensive basis, and few university controlled IPRs generate lucrative returns. For the most part IPR-protected science is better left to venture capital, commercial R&D and product development. Universities should focus on their own distinctive contributions, which are the creation, interpretation and dissemination of knowledge, and research training. The OECD is also concerned that the short-term decision cycles and product formats inherent in NPM systems may inhibit fundamental creativity. This too is a change in policy thinking and again signifies disillusionment with the NPM market model.

The shift to project-based research funding in TEIs [tertiary education institutions] raises a number of issues that need to be considered in relation to the long-term development of the research and innovation system. Competitive funding may promote more ad hoc and short-term research in cases where evaluation mechanisms and incentive structures focus on quantifiable and ‘immediate outputs’. As a result, researchers may be reluctant to engage in research that will not produce results that can be demonstrated over short time-spans. In addition, precisely because project-based funding is competitive, sustained funding is not guaranteed, which may impede the autonomy of researchers working in controversial fields. Geuna (2001, p. 623) notes that short-term research and less risky research may reduce the likelihood of ‘scientific novelty’. Furthermore, Geuna and Martin (2003, p. 296) argue that research may become ‘homogenised’ because ‘safer’ research is rewarded (OECD, 2008, Vol. 2, p. 114).

The OECD’s notion of role of higher education in ‘open science’ is not the reassertion of old non-market collegial modes of research separate from society. Rather it is a post-market vision in which

research is grounded in a networked and interactive global knowledge creating environment in which universities and industry share a common information system. Links to industry are more important than in the high collegial era, and creative people are alive to financing opportunities; but even more important in driving inquiry are cross-border links between knowledge producers. The post-NPM approach reasserts the autonomy of research without collapsing its transparency or neglecting the potential economic payoffs.

A control system not an economic system

Thus the great bulk of teaching and research continues to occur in an unambiguously non-profit world. In the absence of a functioning economic market of the capitalist type, an NPM-based system is a control regime not an economic system. Comprehensively reformed systems like those of New Zealand and Australia take the form not of economic markets but government controlled simulacra, ‘quasi-markets’ in which the policy discourse is more market-like than the reality. NPM reforms lead to the modernization and strengthening of government steering, coupled with a downward devolution of political responsibility for outcomes from government to institutions, under terms and conditions set from above with predictable outcomes. Nikolas Rose (1999) calls this ‘responsibilization’.³ This suggests that the primary outcome and intention of the reform process is political rather than economic: the reproduction and tightening of state control in higher education and research. As noted, governments have not deregulated themselves out of higher education as a pure market model would suggest. The neo-liberal market discourse with its talk of deregulation, together with the feint of deregulation that devolution represents, provide an ideological legitimation for the control system. Devolved systems generate less resistance than direct rule.

Why have markets not been created?

Why has the goal of the NPM market model faltered in higher education and research?

The common explanations given for this failure by supporters of the NPM market model (e.g. Norton, 2002) are insufficient political will to implement reform, the ‘capture’ of government agendas (Buchanan & Tullock, 1965) by universities and interest groups such publicly-funded scientists, and/or the control impulses of nation-states which are unable to exit higher education. These arguments have some merit, especially the last, but share a common limitation. They all suggest the triumph of politics over economics without explaining why, and they leave the premises of the NPM market model unexamined. Given the dominance of the model in policy over a long period it does not seem plausible that everywhere governments had a similar paralysis of will just when genuine implementation was within reach.

³ See also further discussion in Marginson, 2008.

The counter explanation is that to see the failure of NPM market model as politically driven is to confuse symptoms and cause. The limits of economic market reform are set not by political factors but the *intrinsic economic and social nature* of higher education and research. Education and research cannot be turned into profit-based markets without a reduction or transformation that is widely deemed unacceptable. This in turn has shaped political decision making. Such is the argument of this paper.

In summary, there are three intrinsic limits to capitalist economic markets in higher education:

1. Knowledge is predominantly a public good not a private good (Samuelson, 1954). Hence both the outcomes of research, and the content of what students learn, are also predominantly a public good (though the degree certificates received by students at the end of teaching programs, and the networking benefits of attendance at elite institutions, are mostly private goods). Public goods are typically under-provided in commercial markets. To shift higher education and research out of the production of public goods would drastically reduce the desired outputs.
2. Further to this, a major and probably principal economic outcome of higher education and research is that they provide conditions of production of profit-making industry, and government and civil organization, across society. These conditions include the contributions of higher education to the social literacy, to all of the attributes of educated labour not rewarded in individual remuneration, and to the productivity of persons who work with graduate labour. They also include the contributions of basic research in sourcing industry innovations. Because of the indirect and elusive character of these outcomes, and the public good character of learning (to the extent it rests on knowledge) and research, it is impossible to render these outcomes in commodity form and produce them to the required level in markets.
3. To the extent that degree certificates and networking benefits are private goods, these are status or positional goods (Hirsch, 1976; Frank & Cook, 1995; Marginson, 2004). Status production is highly competitive but status competition operates in a peculiar sub-capitalist manner. Fully capitalist production would negate the character of the status goods. For example, if an elite university expands to soak up all of the possible student demand in the manner of, say Toyota in the automobile market or Dell in the computer market, it devalues the positional, status value of its own degrees and thereby ceases to be an elite university. No elite university has done this yet.

The remainder of the paper will now expand on these three arguments.

Public and private goods

Paul Samuelson (1954) systematized the notion of ‘public goods’.⁴ Samuelson identified public goods as economic goods that are non-rivalrous and non-excludable and tend to be un-produced or under-produced in commercial markets. Goods are non-rivalrous when they can be consumed by any number of people without being depleted, for example knowledge of a mathematical theorem. Goods are non-excludable when the benefits cannot be confined to individual buyers, such as national defence. Private goods are goods which possess neither quality, neither non-rivalrous or non-excludable.

More than forty years later Joseph Stiglitz (e.g. 1999) found knowledge is close to a pure public good. Except when it is artificially rendered a commodity as in copyrights and patents, the natural price of knowledge is zero. Stiglitz also noted that a large component of knowledge consists of global public goods. The mathematical theorem is useful all over the world. Its price everywhere is zero. In the Internet age most knowledge can be freely accessed or low or no cost, providing the user has access to the communications system, and it is created and disseminated freely. But not only does most knowledge never become a commodity; even knowledge goods in their commercial form are shaped by the logic of public goods. Knowledge goods are naturally excludable at only one moment, creation. The original producer holds first mover advantage. At that point knowledge is a temporary private good. But this is a one-sale per item market (e.g. unlike ball-bearings, land or labour). Further, unlike consumable goods (e.g. an ice-cream) or services (a medical consultation) knowledge retains use value after the initial sale and can be recycled infinitely. Knowledge takes the form of either a permanent public good, or a momentary private good that becomes a permanent public good. Its public good character is primary.⁵

This means it is impossible to turn university research as a whole into a capitalist market. It also means teaching cannot be wholly marketized either, as one of its functions is the transmission of knowledge. MIT recognized the public good nature of the knowledge aspect of teaching and learning when it launched the Open Courseware initiative. The MIT website is now the most visited in the university world (webometrics, 2009). This does not prevent MIT providing private goods to its enrolled students in the form of the pedagogical function itself, the labour market and status benefits of the degree, and elite networking. University teaching combines public and private goods. The private value of the MIT degree is probably enhanced by the reputation building effects of Open Courseware.

⁴ Note that the boundary between public and private *goods* (which goes to the social nature of the goods) is distinct from the boundary between public and private *institutions* (which goes to legal ownership and is usually a state/non state distinction). For example, elite public sector institutions with free tuition produce private goods: selective and valuable degrees for students, and commercial intellectual property. At the same time all private sector institutions produce at least some public goods, by contributing to graduate literacy and productivity to the extent these are unrewarded in individual remuneration in the workplace.

⁵ Once the first mover advantage has disappeared and the knowledge is in circulation, any attempt to hold down commodity forms at this point is artificial. This is true also of knowledge or culture-intensive goods produced by commercial industries. The vast bulk of recorded music and film circulates in pirate form at low or zero cost. American style copyright is not just difficult to police, it is violated at every turn and impossible to enforce.

Indirect economic benefits

The indirect benefits of teaching and learning in higher education are of two kinds. First, there are collective universal benefits that typically constitute advanced modern societies, such as common language, common cultural knowledge and the capacity to communicate. These shared qualities are foundational to stable conditions for government, economic production and consumption, and cross-border international relations. In part modernization consists in the advance of the threshold level of sociability through education and communications. The economic payoff is the contribution of higher education to technological adaptation. The indirect collective benefits also include the short- and long-term contributions of basic research in sourcing industry innovations, and modernizations in all spheres. From the point of view of governments, one indirect benefits of higher education is the provision of an orderly and credible system of social selection, one that does not greatly disturb the status quo. If social selection was mediated by commercial tuition markets it would appear more closed and less equitable. As noted in the discussion about WTO-GATS, for most governments the curriculum in higher education in part embodies national values, ethics and traditions. Again these are collective public goods.

Second, there are more individualized economic ‘spillover’ benefits from the education of one person to others. The knowledge and skills that graduates bring to the workplace not only make the graduate more productive, they make other workers more productive as well. Such benefits are partly but not fully or consistently rewarded in the labour markets and must be subsidized by the public funding of education and training. Among economists there is little disagreement about the public good character of both collective goods and spill-overs, though there is disagreement about their value.

Because the indirect benefits are conditional, in that they depend for their realization on the other sectors in which they are manifest, they are notoriously difficult to define and measure.⁶ For example the contribution of higher education and research to aggregate productivity, value creation, profitability and growth in all sectors is mediate by factors such as work organization and the utilization of graduates, the capacity of businesses to access research knowledge for the purposes of innovation, the state of the macro-economy, global developments, social and cultural factors and so on. The indirect contributions of education and research cannot be predicted in advance. But clearly they are very important. Modern societies could not function without them. Because of the indirect and elusive character of these outcomes, and also the public good character of learning (to the extent learning rests on knowledge) and research, it is impossible to render these outcomes in commodity form and produce them effectively in

⁶ For a useful discussion see McMahon 2004; 2009.

markets. If educational participation and knowledge creation were driven by market forces the indirect contribution of higher education to productivity and innovation would be under-provided.

Status markets

All student places in higher education that provide entry into occupations with superior income streams and/or status are pathways to private teaching goods. In elite institutions the places themselves provide status benefits that can be translated into further economic benefits, again constituting private goods. As noted networking benefits also constitute private status goods. The fact of private goods means that a commodity market could be sustained in teaching, though the knowledge content of the indirect public goods would be neglected. But such a market would not function as a fully-fledged capitalist market.

Status markets have special characteristics. First, they constituted not only by competition between producers but by competition between consumers for access to high value scarce student places in sought-after institutions.⁷ Second, as noted, elite institutions do not expand to meet all possible demand. They do not seek to maximize revenues and market share. Their core objective is not profit or shareholder value. It is social prestige and power. No elite university has tried to leverage its brand by turning itself into a giant multinational producer. Not only do they have ends other than economic revenues in sight; such an exercise would be self-defeating as the unit value of the degree would decline sharply. Third, status production is highly competitive within the group of high status institutions, but this group is largely closed to outside competition. Once elite institutions become elite, they find it relatively easy to stay in the role and block the wannabees. University status reproduces itself. Producers of high status research and sought after student places attract government support and high volume student applications, which maintain the resources for research and the scarcity and high value of student places. The number of high status producers is limited in absolute terms. The result is that lists of top universities are very stable. For all these reasons it is impossible to establish a fully commercial market in high status institutions.

Conclusions

Higher education produces a mix of public and private goods. While NPM reform in many countries has increased the relative role of private goods, always policy sensitive, it has not transformed this mixed character of education. Nor has it necessarily diminished the role of institutions in producing public

⁷ It seems poor teaching is a tolerable price for a high status degree. Research finds that when asked whether they would prefer indifferent teaching in a high status institution or excellent teaching in a medium status institution, nearly all students choose the former. For example see James, et al., 1999.

goods, though arguably this role has been insufficiently recognized by policy. Public goods have been enhanced in research, global cooperation, and the lifting of literacy thresholds. Much if not most of the contribution of higher education and research is indirect rather than direct. It provides conditions of production in the economy and conditions of reproduction in the society. These conditions derive from the public good functions. If research and the knowledge content of teaching were produced as solely private goods they would be dramatically under-provided. Hence the continuing role of state funding, regulation and to a lesser extent state provision; the potential contribution of philanthropy to public goods in education and research; and the inability of the NPM market model to meet economic and social needs.

A key problem of public goods in education and research; and the indirect economic contributions of higher education; is the difficulty of tracking, computing and comparing them. Complex collective goods can only ever be apprehended by synthetic judgement. No model is complex enough, no calculations suffice. Despite these reservations some aspects of public goods *can* be measured: for example the quantitative extension of networked communications; the volume of web publishing (webometrics, 2009); the contributions of professors to policy making, in quantity of hours or quantity of papers; patterns of industry innovation and their location in fields of knowledge; the contribution of higher education to social opportunity. More thought needs to be given to defining and monitoring the public goods.

When used as a system descriptor for national higher education, the term ‘market’ confuses analysis because it implies a conventional economic market. It should no longer be used. The fact should be faced squarely: the ambition to turn education systems into functioning capitalist markets has failed. *It had to fail*. Mainstream education institutions will never behave like capitalist firms though they can assume some of the features of firms. Further, though the aim of the NPM market model is to maximize the contribution of higher education to economic growth, it is unable to comprehend the economic potentials of higher education, and its fuller application would undermine that potential. The NPM market model is self-limiting and in that respect internally contradictory. Rather than the road to continuous improvement ‘the market’ is a cul de sac. The problem does not lie in the use of a reflexive framework for systematic improvement. An organized, transparent kind of reflexivity is a necessary response to social demands, if not to modernity itself. Many features associated with the NPM have succeeded in themselves and bettered the systems in which they were applied: for example the focuses on objectives and performance, value for money, openness and transparency of operation, relativization of professional oligopoly, external connectedness, strategic leadership. But the central objective of economic markets has not worked in higher education and research. This suggests that it is time to sort the good from the dross, and to move on from the NPM market model, devising a new reflexive framework for continuing system reform.

The impossibility of the NPM market has been apparent for at least a decade. Further, policy-related economics has long had the tools to explain that impossibility to itself, and to begin the process of

devising something more apposite to the character of higher education and effective to its ongoing reform – Samuelson (1954) and Stiglitz (1999) on public and private goods and the nature of knowledge; Romer (1990), Lichtenberg and Siegel (1991) and others on the indirect contribution of higher education and R&D to endogenous growth and continuous technological transformation; and Hirsch (1976), Frank (e.g. 1985) and others on the laws of motion of status competition. Given that the market blueprint does not provide satisfactory tools for policy making, and given that it is impossible to implement, why do governments persist with it? Inertia is one possible reason: resistance of neo-classical economics to any departure from market purity; resistance of governments to undo systems and discourse. The persistent interest of some business sectors in the creation of commodity markets in education is another. The most telling hypothesis is that the primary intent was always state control of universities and not a deregulated market. The market was and is merely the ideological justification for the NPM as a system of rule. But state power as an end in itself is scarcely sufficient as a basis for policy making in higher education.

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