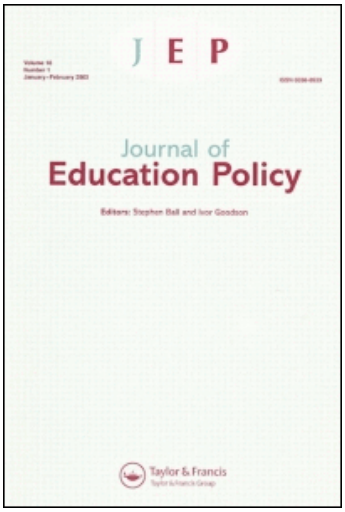

Journal of Education Policy
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713693402

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To cite this Article Olssen, Mark and Peters, Michael A.(2005) 'Neoliberalism, higher education and the knowledge economy: from the free market to knowledge capitalism', Journal of Education Policy, 20: 3, 313 — 345
To link to this Article: DOI: 10.1080/02680930500108718
URL: http://dx.doi.org/10.1080/02680930500108718

Journal of Education Policy
Vol. 20, No. 3, May 2005, pp. 313–345

Neoliberalism, higher education and the knowledge economy: from the free market to knowledge capitalism

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The ascendancy of neoliberalism and the associated discourses of 'new public management', during the 1980s and 1990s has produced a fundamental shift in the way universities and other institutions of higher education have defined and justified their institutional existence. The traditional professional culture of open intellectual enquiry and debate has been replaced with a institutional stress on performativity, as evidenced by the emergence of an emphasis on measured outputs: on strategic planning, performance indicators, quality assurance measures and academic audits. This paper traces the links between neoliberalism and globalization on the one hand, and neoliberalism and the knowledge economy on the other. It maintains that in a global neoliberal environment, the role of higher education for the economy is seen by governments as having greater importance to the extent that higher education has become the new star ship in the policy fleet for governments around the world. Universities are seen as a key driver in the knowledge economy and as a consequence higher education institutions have been encouraged to develop links with industry and business in a series of new venture partnerships. The recognition of economic importance of higher education and the necessity for economic viability has seen initiatives to promote greater entrepreneurial skills as well as the development of new performative measures to enhance output and to establish and achieve targets. This paper attempts to document these trends at the level of both political philosophy and economic theory.

Neoliberalism as a dimension of globalization

At an economic level, neoliberalism is linked to globalization, especially as it relates to the 'freedom of commerce', or to 'free trade'. In this sense, neoliberalism is a particular element of globalization in that it constitutes the form through which domestic and global economic relations are structured. Yet, neoliberalism is only one dimension of globalization, which is to say, it is not to be seen as identical to the

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ISSN 0268–0939 (print)/ISSN 1464–5106 (online)/05/030313–33

DOI: 10.1080/02680930500108718

phenomenon of globalization as such. Globalisation is a much broader phenomenon in that should neoliberalism not have replaced Keynesianism as the dominant economic discourse of western nations, it would still constitute a significant process. This is the sense that it has partly occurred as a consequence of changes in technology and science, which have brought many parts of the world closer together through developments in forms of technology as they have influenced information, communications and travel.

The advent of neoliberalism would not have prevented this process from occurring, and thus, it must not be confused with globalization as such. Rather it must be seen as a specific economic discourse or philosophy which has become dominant and effective in world economic relations as a consequence of super-power sponsorship. Neoliberalism is a politically imposed discourse, which is to say that it constitutes the hegemonic discourse of western nation states. As such it is quite independent of the forms of globalization that we have spoken of above, based as they are on changes in technology and science, nor can it be seen as part of their effects, although this is not to say that there is no relationship at all. Its major characteristics emerged in the US in the 1970s as a forced response to stagflation and the collapse of the Bretton Woods system of international trade and exchange, leading to the abolition of capital controls in 1974 in America and 1979 in Britain (Mishra, 1999; Stiglitz, 2002). This made it extremely difficult to sustain Keynesian demand management. Financial globalization made giant strides. Exchange rates were floated and capital controls abolished, giving money and capital the freedom to move across national boundaries. The changes in technology did certainly facilitate these changes, for developments in microelectronics and computers made it possible to shift financial reserves within seconds.

Neoliberalism and higher education policy

Within higher education neoliberalism has introduced a new mode of regulation or form of governmentality. In order to understand this it is necessary to understand that the welfare liberal mode it replaced maintained fundamentally different premises at the level of political and economic theory, as well as at the level of philosophical assumption. The central defining characteristic of this new brand of neoliberalism can be understood at one level as a revival of many of the central tenets of classical liberalism, particularly classical economic liberalism. The central presuppositions shared include:

1. *The self-interested individual:* a view of individuals as economically self-interested subjects. In this perspective the individual was represented as a rational optimizer and the best judge of his/her own interests and needs.
2. *Free market economics:* the best way to allocate resources and opportunities is through the market. The market is both a more efficient mechanism and a morally superior mechanism.
3. *A commitment to laissez-faire:* because the free market is a self-regulating order it regulates itself better than the government or any other outside force. In this,

neoliberals show a distinct distrust of governmental power and seek to limit state power within a negative conception, limiting its role to the protection of individual rights.

4. *A commitment to free trade:* involving the abolition of tariffs or subsidies, or any form of state-imposed protection or support, as well as the maintenance of floating exchange rates and 'open' economies.

Notwithstanding a clear similarity between neo and classical liberal discourse, the two cannot be seen as identical, and an understanding of the differences between them provides an important key to understanding the distinctive nature of the neoliberal revolution as it has impacted on OECD countries over the last 30 years. Whereas classical liberalism represents a negative conception of state power in that the individual was taken as an object to be freed from the interventions of the state, neoliberalism has come to represent a positive conception of the state's role in creating the appropriate market by providing the conditions, laws and institutions necessary for its operation. In classical liberalism the individual is characterized as having an autonomous human nature and can practise freedom. In neoliberalism the state seeks to create an individual that is an enterprising and competitive entrepreneur. As Graham Burchell (1996, pp. 23–24) puts this point, while for classical liberalism the basis of government conduct is in terms of 'natural, private-interest-motivated conduct of free, market exchanging individuals', for neoliberalism:

> … the rational principle for regulating and limiting governmental activity must be determined by reference to *artificially* arranged or contrived forms of free, *entrepreneurial* and *competitive* conduct of economic-rational individuals.

This means that for neoliberal perspectives, the end goals of freedom, choice, consumer sovereignty, competition and individual initiative, as well as those of compliance and obedience, must be constructions of the state acting now in its positive role through the development of the techniques of *auditing*, *accounting* and *management*. It is these techniques, as Barry *et al.* (1996, p. 14) states:

> … [that] enable the marketplace for services to be established as 'autonomous' from central control. Neoliberalism, in these terms, involves less a retreat from governmental 'intervention' than a re-inscription of the techniques and forms of expertise required for the exercise of government.

In his own analysis, Burchell is commenting on and articulating Foucault's perspective on liberalism as a form of state reason or 'governmentality'. For Foucault (1991a), neoliberalism represents an art of government or form of political reason. A political rationality is not simply an ideology but a worked-out discourse containing theories and ideas that emerge in response to concrete problems within a determinate historical period. For Foucault, like Weber, political reason constituted a form of disciplinary power containing forms and systems of expertise and technology utilizable for the purposes of political control. Liberalism, rather than being the discovery of freedom as a natural condition, is thus a prescription for rule, which becomes both the *ethos* and *techne* of government. In this sense, as Barry *et al.* (1996, p. 8) put it:

> Liberalism is understood not so much as a substantive doctrine or practice of government in itself, but as a restless and dissatisfied ethos of recurrent critique of State reason and politics. Hence, the advent of liberalism coincides with discovering that political government could be its own undoing, that by governing over-much, rulers thwarted the very ends of government.

For Foucault (1991a), liberalism represented a constructed political space, or a political reconstruction of the spaces in terms of which market exchanges could take place and in terms of which a domain of individual freedom could be secure. As such a constructed space, liberalism, says Foucault, enabled the domain of 'society' to emerge in that it stood opposed to the *polizeiwissenschaft* of the *ancien regime* which constituted a formula of rule that sought total control. In this sense liberalism is a form of permanent critique of state reason, a form of rationality which is, as Thomas Osborne (1993, p. 346) explains, 'always suspicious of governing overmuch, a form of government always critical of itself'.

Markets as a new disciplinary technology in the public sector

Ron Barnett (2000) utilizes Lyotard's concept of 'performativity' to argue that marketization has become a new universal theme manifested in the trends towards the commodification of teaching and research and the various ways in which universities meet the new performative criteria, both locally and globally in the emphasis upon measurable outputs.

Markets were of course traditionally important in classical economics, and formed an essential part of the welfare state, for regulating private entrepreneurial conduct in the public sphere of society. Under neoliberalism, markets have become a new technology by which control can be effected and performance enhanced, in the public sector. As a technique by which government can effect control, its development for non-private institutional contexts depended upon developments in knowledge and research from the 1930s. These included the writings of Frederick A. Hayek; the development of monetarist economics by Milton Friedman; the development of Public Choice theory by James Buchanan and his collaborators at Chicago, as well as the later development of institutional theories of internal organizational functioning, such as Agency Theory and Cost-Transaction Economics.

Although Frederich Hayek (1899–1992) must in many senses be considered a classical liberal, his writings from the 1930s onwards contribute to neoliberalism in that he shares many of the themes of neoliberalism and, in addition, he deeply influenced later forms of the doctrine. Hayek can be considered a part of, and having major debts to, the Austrian School of Economics founded by Menger (1840–1921) and carried on by von Wieser (1851–1926) and von Mises (1881–1973). One of the major ways that Hayek departs from classical economic theory relates to his acceptance of the Austrian School's subjective theory of value, the theory that value is conferred on resources by the subjective preferences of agents. As John Gray (1984, p. 16) puts it, it was this 'profound insight which spelt the end of the tradition of classical economic theory', marking a departure from economic theorists such as

Adam Smith, David Ricardo, J. S. Mill and Karl Marx, who had all analyzed value in objective terms as deriving from the labour content of the asset or resource under consideration. Like von Mises, Hayek defends subjectivism in economic theory regarding value, but goes further, noting that the data of the social sciences are themselves subjective phenomena and that social objects like money or tools are constituted by human beliefs.[1]

Amongst the major themes of his economic and social philosophy are his argument that 'local knowledge', as is found in markets, is always more valid and effective than the forms of codified text-book-type knowledge that it is possible to introduce through planning. For this reason, markets have distinct advantages over state regulation or planning. The laws of supply and demand operate, via the price mechanism, as indicators of under- and over-supply as well as incentives for producers to produce high quality, competitively priced goods for which there is an established demand. In a multitude of ways, markets provide fast and efficient methods of supplying information on consumer demand, and a sure way of making sure that producers and providers will respond (see Hayek, 1945).

Consequently, Hayek (1944, 1948, 1952, 1960, 1976) maintains that the proper functioning of markets is incompatible with state planning of any sort, either full-scale socialism or the more limited conception of the welfare state. A full-scale rational socialism is impossible because it would have no markets to guide resource allocation. In addition, central planning of any form, he claims, is not practical because of the scale of centralized calculation any effective attempt at allocation would require. On this basis Hayek contends that all forms of state action beyond the *minimal* functions of the defence of the realm and the protection of basic rights to life and property are dangerous threats to liberty which are likely to lead down the 'road to serfdom'.

His main arguments against central planning are based on two claims: (1) on its inefficiency; and (2) on the threat to freedom of the individual. It would be inefficient, in Hayek's view, because real knowledge is gained and true economic progress made as a consequence of locally generated knowledge derived from 'particular circumstances of time and place' and the state is not privy to such knowledge (Hayek, 1944, p. 521). The market then is the mechanism which best allocates resources in society. Planning ignores this localistic character of knowledge and interferes with the self-regulating mechanism of the market.

Buchanan and Public Choice Theory

While Hayek argued for the importance of markets for the regulation of private-business conduct, it was James Buchanan and his collaborators that argued for an extension of the market as a mechanism for the institutional regulation of public sector organizational contexts. In this, Buchanan introduced a major shift from liberal to neoliberal governmentality. For markets, rather than being seen, as they were for Hayek, and for classical political economy, as a natural, self-regulating reserve, where the hand of nature will produce an optimal social and economic equilibrium, would now become a technique of government's 'positive' power, acting deliberately

through the vehicle of the state to engineer the conditions for efficient economic production.

The difference between Hayek and Buchanan on this point has not been sufficiently stressed in the literature on markets. For Hayek, in the classical tradition, economies are the outcome of spontaneous evolution which demonstrate the superiority of unregulated markets for creativity and progress. A spontaneous societal order such as a market order can utilize practical fragmented knowledge in a way in which a holistically planned order cannot. Hayek states his theory of spontaneous order first in relation to a comment on Bernard Mandeville when he says:

> For the first time [he] developed all the classical paradigmata of the spontaneous growth of orderly social structures: of law and morals, of language, the market and money, and also the growth of technological knowledge. (Hayek, 1978, p. 253)

A spontaneous order emerges for Hayek as a natural process. It can be observed in population biology of animal species, in the formation of crystals, and even in galaxies (Hayek, 1952, p. 180; 1967, p. 76; 1973, p. 39; 1976, pp. 39–40). It is this idea that self-organizing and self-replicating structures emerge without design, and that knowledge about some parts of the structure permit the formation of correct understanding about the behaviour of the structure as a whole, that Hayek is most keen to emphasize. It underpins his rejection of Cartesian rationalism, his historicism, his anti-foundationalism, his theory of the evolution of mind (1978, p. 250). In that the market is a spontaneous order, it displays a tendency to equilibrium, although an actual perfect equilibrium is never achieved but must be viewed as a constantly changing process of tending towards orderliness. This is not only with reference to economic life and the spontaneous emergence of markets, but also in social life in relation to the growth of language where we find the spontaneous formation of self-regulating structures, as well as in relation to the development of moral norms. Hence, as Gray points out, the emergence of spontaneous systems is 'somewhat akin to the generalizations of Darwinian evolution' (Gray, 1984, p. 31) in that Hayek maintains that 'selective evolution is the source of all order' (Gray, 1984, p. 32). Thus, in a market economy there is a real analogy to Darwinian natural selection in that the 'profit-loss system provides a mechanism for the elimination of unfit systems' (Gray, 1984, p. 32) with the proviso that, in contradistinction to Herbert Spencer or W. G. Sumner, natural selection is not solely about individuals but about groups and populations. Such a thesis incorporates Hayek's arguments that social institutions arise as a result of human action but not human design (the 'invisible hand' thesis); that knowledge embodied in practices and skills that is practical, tacit and local is primary in terms of its epistemological status; and that there is a natural selection of competitive traditions whereby rules and practices that confer success come to replace those unsuited to the human environment. Following closely in the footsteps of von Mises, Hayek argues that any attempt to supplant market relations by public planning cannot avoid calculational calamities and is therefore doomed to failure.

In Buchanan's view, markets are a useful technology for use by the state. Partly aided by developments in national incomes accounting after World War II, partly by

the perceived difficulties of Keynesianism, and also by the general context of the Cold War, Buchanan and the Public Choice theorists were concerned with the marketization of the public sector by the deliberate actions of the state. This is to say that Buchanan had little faith in the 'spontaneous' ordering of the market or in the efficacy of the social evolutionary process. For him, evolution may produce social chaos and dysfunctional patterns as readily as it may social harmony and equilibrium. Significantly, it is on this point that Buchanan (1975, p. 194n) criticizes Hayek:

> My basic criticism of F. A. Hayek's profound interpretation of modern history and his diagnosis for improvement is directed at his apparent belief or faith that social evolution will, in fact, ensure the survival of efficient institutional forms. Hayek is so distrustful of man's explicit attempts of reforming institutions that he accepts uncritically the evolutionary alternative.

Rejecting all talk of *automaticity* and *evolution*, Buchanan expresses a much greater faith in *conscious action* to legitimate the 'long over-due task of institutional over-haul' that many commentators were calling for (Reisman, 1990, p. 74). It is on these grounds that he makes the distinction between the 'protective state' and the 'productive state'. While the former is concerned with the basic constitutional framework of rights enforced by law and with national defence, the latter is both 'policeman' and 'participant' (Reisman, 1990, p. 81). These two levels of state relate to, as Buchanan (1975, p. x) says, two stages of social interaction: one which involves the selection of rules and one which involves action within these rules as selected. While the distinction between 'protective' and 'productive' is the distinction between law and politics (Buchanan & Tullock, 1962, p. 69), importantly in terms of the political theory of neoliberalism, it is also a distinction between 'negative' and 'positive' freedom, and of the 'negative' and 'positive' role of the state. Importantly in this context, Buchanan's state has a *positive arm*. Hence, while the stringent constitutional safeguards on the protective state make any change in the status quo or redistribution of property almost impossible, the positive arm of the productive state effectively extracts compliance from individuals in order to engineer a market order. In doing so it cuts across the traditional guarantees of classical liberalism regarding the spaces it sought to protect—a domain of personal freedom, the rights of privacy involving freedom from scrutiny and surveillance, as well as professional autonomy and discretion in one's work. PCT effectively undermines and reorganizes the protected domains of their classical liberal forebears. The shift, I will claim shortly, is both theoretically and practically important for understanding the changes in higher education in Britain and other OECD countries in the last two decades.

Neoliberal theories of institutional redesign: Agency Theory and Cost-Transaction Economics

It is with PCT that market techniques were systematically developed and first became a technology for institutional governance. Centrally PCT constituted a supply-side process of 'governing without governing', a process by which compliance is extracted through systems that measure performance according to both externally imposed

levers, and internally reinforced targets. Influenced and building upon PCT, a number of internal theories of organization through which efficiency and effectiveness are rendered operative in public sector institutions became prominent from the 1950s. Foremost amongst these were Agency Theory and Transaction Cost Economics.

Agency theory (AT) has been widely used in the economic and social restructuring programmes in OECD countries, including Britain, America, Australia and New Zealand.[2] As a theoretical orientation, it represents work relations hierarchically as a series of contracts between one party referred to as the principal and another referred to as the agent. The theory is concerned with problems of compliance and control in the division of labour between work relationships. Although initially developed in relation to business firms, it became adapted and extended to public sector work relationships as a means of exacting the accountability and performance of employees where market incentives and sanctions did not operate. AT theorizes work relations hierarchically in terms of chains of authority and command which can be used to characterize authority relations at all levels of the management hierarchy. Hence, a single person will be principal to those further down the chain of command and agent to those further up. Central to its focus is how one gets an agent to act in accordance with the interests of the principal. Rather than specify a broad job specification based on a conception of professional autonomy and responsibility, it specifies chains of principal-agent relationships as a series of contracts as a means of rendering the management function clear and accountable. AT theorizes hierarchical work relationships as contracts where a principal becomes a commissioning party to specify or delegate work to an agent to perform in return for some specified sanction or reward. As such, it is concerned with how to extract compliance from a voluntary exchange relationship based on dependency. Hence, it speaks to the relationship between employer and employee in all types of work contexts—schools, government agencies, universities and businesses.

In order to minimize risks and enable control in the employment situation, AT specifies a range of monitoring, information eliciting and performance appraisal techniques, which include the following:

- Determining the best form of contract.
- Determining the best way of motivating agents.
- Determining the best way of spurring performance (via targets, rewards and sanctions).
- Finding the best way of monitoring and specifying contracts to guard against excesses and dangers produced by opportunism on part of agent, due to 'shirking' deception, cheating or collusion.

Agency costs are effectively the subject of Transaction Cost Economics (TCE), which is another form of economic theory linked closely to AT, PCT and Property Rights Theory.[3] Principally espoused in the work of Oliver Williamson (1975, 1983, 1985, 1991, 1992, 1994), it seeks to analyze and account for the efficiency costs of transacting business and the effect these have on organizational form. In this respect, as Charles Perrow (1986a, p. 18) puts it, TCE is 'relentlessly and explicitly an

efficiency argument'. In this sense TCE is used to evaluate the efficiency of alternative governance structures or sets of institutional arrangements for various kinds of transactions, especially those generated by the market. Like other neoliberal theories, it assumes a social-ontological context of 'uncertainty', 'bounded rationality', 'limited' and 'asymmetrical' information, and of the 'opportunism' of the 'self-interested' subject. Using theory-specific concepts such as 'small numbers bargaining' and 'asset specificity', TCE endeavours to show why various sorts of organizational forms (involving mergers or takeovers or various forms of organizational integration) may be preferred to a pure market form. In accounting for the increasing size of business organizations over the century, Williamson (1983, p. 125) argues 'that efficiency is the main and only systematic factor responsible for the organizational changes that have occurred'. In essence, then, TCE is about the most efficient method of organization given a particular market context.

TCE has a number of central theory-specific concepts. These are 'uncertainty', 'small numbers bargaining', 'bounded rationality', 'opportunism', and 'asset specificity'. While opportunism expresses the 'self-interested' nature of individual actions, bounded rationality attests to the absence of perfect information, or to the asymmetrical nature of information between two or more parties in any exchange relation. It is due to the absence of perfect information that the market equilibrium becomes unstable, introducing 'uncertainty', which in turn allows agents to act 'opportunistically'. For instance, where it is possible, a party to a contract may exhibit dishonest or unreliable behaviour in order to secure a market advantage. However, the ability to do so will depend upon the nature of the context, the degree of uncertainty in the environment and the extent to which information between the parties is 'asymmetrical'.

Williamson introduces several other concepts which attest to the bilateral nature of exchange and the distortions that are introduced and which need to be overcome when real-life interactions fail to match the precise model of the classical market. 'Small numbers bargaining' gives the parties to an initial contract an advantage over parties not so included in the contract and tends to constitute a conservative pressure for firms not to change or not to be responsive to actual market signals. In this sense, the convenience of preserving an existing arrangement, or of continuing to hire existing staff, may override the fact that more competitive tenders exist, or that 'better' or less disruptive staff could be employed. The concept of 'asset specificity' is related, for long-term parties to a contract tend to have specific assets which become a form of bargaining power and, again, militate against change in line with the expectations generated by the classical model of the market order.

In the context of these potentially disruptive influences, TCE proposes that forms of administrative and governance structures can be instituted which counteract these adverse effects and which render transaction costs efficient relative to a specific form of market competition. Hence, while opportunism and bounded rationality produce different kinds of costs, these must be in turn offset by the types of governance structures in place. AT becomes relevant here in specifying a formalized structure of contracts between principals and agents to counter the possible distortions or costs

associated with opportunism and bounded rationality. Forms of monitoring and performance appraisal also operate in this regard. In his later works, Williamson (1991, 1992, 1994) focuses attention on public sector governance issues and specifically with the problem of selecting governance structures which are most efficient, i.e., which minimize the costs of the different organizational transactions involved.

Both AT and TCE, as well as the other neoliberal theories (such as PCT and Property Rights Theory), are relevant to understanding the unprecedented disaggregation of the public sector that has occurred in Britain and other OECD countries since the late. As Catherine Althaus (1997, p. 138) observes, AT has been central to the dramatic scale of the restructuring that has occurred in these countries. It has underpinned funder/provider and policy/delivery splits (the 'decoupling' strategies) both within the public sector bureaucracy as well as between the bureaucracy and the state, and resulted in policies of deregulation, corporatization and privatization. In addition, notes Althaus (1997, p. 137), 'New Zealand and the United Kingdom have engaged in a unique application of agency theory which places them at the forefront of its application to the public sector'. Indeed, 'the striking aspect of an analysis of [the neoliberal] reform programme is its use of theory' notwithstanding the fact that 'the agency model has serious deficiencies if applied uncritically to public sector management' (1997, p. 138). Such a model increases accountability and efficiency, rendering pubic non-private institutions analogous to private companies. As such, AT is a:

> … means of conceptualising and rationalising human behaviour and organisational forms … [i]t is a scrutiny of the interaction between a distinct relationship between two parties—the principal and agent—within a context assuming individual self-interest maximisation, bounded rationality, risk-aversion, goal conflict among members and the treatment of information as a commodity which can be purchased. (Althaus, 1997, p. 141)

Underpinning TCE as well as AT is Property Rights Theory (PRT), which is the fundamental grounding theory for the conception of self-interested human behaviour assumed in neoliberal theories. As such, the incentives structure of agents and principals in AT is assumed using PRT which is essentially a theory of 'ownership' of property as it inheres in the individual. Hence, central to PRT is the entitlement to scarce commodities and a conception of the system of exchange rules in terms of which such commodities may be transferred. As McKean (1974, p. 175) states, property rights are essentially 'one's effective rights to do things and effective claims to reward (positive or negative) as a result of one's action'. Such a theory assists in conceptualizing the structuring of incentives in relation to the management of institutions.

TCE with AT, PRT, and PCT are collectively represented as part and parcel of the New Institutional Economics (NIE) or of New Public Management (NPM). The common language of such approaches stresses concepts such as 'outputs', 'outcomes', 'accountability', 'purchase', 'ownership', 'specification', contracts', 'purchase agreements', etc. Central to such an approach is an emphasis on contract which ostensibly replaces central regulation by a new system of public administration which introduces such concepts as clarification of purpose, role clarification, task specification, reliable

reporting procedures and the freedom to manage. According to Matheson (1997), contractualism includes relations where:

1. Parties have some autonomy to their role.
2. Where there are distinctions between roles and therefore where a clarification of roles is obtainable.
3. Where the specific role components are specifiable and where as a consequence individuals can be held accountable.
4. Where responsibility flows downwards, rather than upwards, i.e., responsibility can be identified as fixed in terms of a specific role.
5. Where the assignment of work is by agreement.
6. Where there is an objective basis for judging performance.
7. Where transparency is a feature of the agreement process.
8. Where there are explicit consequences (sanctions or rewards) for fulfillment or non-fulfillment.

The consequence of such a contractualism was to view all work relations as principal-agent hierarchies, thereby redefining the appropriate process in terms of outputs, and where services are viewed in terms of cost and quality. Such a system gave rise to new patterns of employment (fixed-term contracts) and new forms of accountability whereby relationships were more directly clarified and services more clearly described. Such an approach has low transaction costs, few legal fees, and few direct compliance costs.

The New Institutional Economics, especially AT, constituted a strategy that appeared promising in terms of its commitments to:

1. Strategic management.
2. Divestment of non-core activities.
3. Re-engineering to create customer focus.
4. Delayering/de-coupling.
5. Total quality management.
6. Use of modern information technology for management information systems.
7. Improved accountability systems.
8. Establishing appropriate cultural values, teamwork and leadership.

Not only was the NIE important for the selection and modification of governance structures, but it enabled a much tighter and clearer specification of roles, as well as greatly increased accountability. The key concerns of the NIE were a concern with transaction costs, concepts and principles for analyzing them through enhanced specification of tasks and goals, increased transparency, clear allocation of responsibilities and duties, the imposition of a heightened incentive structure, a greater ability to monitor the contracts linked to a greatly increased accountability system. The following principles, derived from NIE, have been of central importance:

- separation of ownership and purchase responsibilities;
- separation of policy from operations;

- separation of funding, purchasing and provision of services;
- competition between service providers;
- reallocation of functions for focus, synergy and information. (Scott, 1997, p. 158)

All of these neoliberal theories assume that individuals are rational utility maximizers and, because of this, the interests of principals and agents will inevitably diverge. In any management context, the problems that the principal will have amount to a range of uncertainties and difficulties in obtaining information. In many senses, both principals and agents have access to information that the other party does not. In addition, agents will have an incentive to exploit their situation to their own advantage. They may, for instance, withhold information that would be to their disadvantage.

What were not noted by the political reformers, however, were the negative consequences of such disaggretative theories. In Britain Hede (1991, p. 38), Greer (1992, p. 223) and Trosa (1994) note negative effects (increased tensions, rivalry, unnecessary duplication of services and resources, etc) of disaggretative models. They maintain that when policy advice is separated from operations, the emergence of destructive sub-cultures can result, which can in turn lead to the duplication of advice as well as increased distrust and disruption instead of the theorized would-be benefits of greater contestability.

Neoliberal governmentality and higher education

On this model, education is represented as an input–output system which can be reduced to an economic production function. The core dimensions of new public management, are: flexibility (in relation to organizations through the use of contracts); clearly defined objectives (both organizational and personal), and a results orientation (measurement of and managerial responsibility for achievement of). In addition, new public management in applying quasi market or private sector micro-techniques to the management of public sector organizations has replaced the 'public service ethic' whereby organizations were governed according to norms and values derived from assumptions about the 'common good' or 'public interest' with a new set of contractualist norms and rules. Hence notions of 'professional', 'trustee' or 'fiduciary' are conceived as 'principal/agent relationships'. When organizations are ruled by new governance arrangements and models, under relations of managerialized accountability, what happens to the presumption of trust that public servants will act in the public good?

There is also a complex and subtle shift in relation to political philosophy. Under *liberal governmentality*, the 'professions' constituted a mode of institutional organization characterized by a principle of *autonomy* which characterized a form of power based on 'delegation' (i.e., delegated authority) and underpinned by relations of trust. Under *neoliberal governmentality*, principal-agent line management chains replace delegated power with hierarchical forms of authoratively structured relation, which erode, and seek to prohibit, an autonomous space from emerging. This shift in regulative modality constitutes a structural shift which is likely to transform the academic's role.

Neoliberalism cuts across the spaces of classical liberalism in other ways as well. The institutionalization of models of principal-agent chains of line management inserts a hierarchical mode of authority by which the market and state pressures are instituted. For academic staff this carries with it the effect of *de-professionalization*, involving:

- A shift from collegial or democratic governance in flat structures, to hierarchical models based on dictated management *specifications* of job performance in principal-agent chains of command.
- The implementation of restructuring initiatives in response to market and state demands involves increasing *specifications* by management over workloads and course content by management. Such hierarchically imposed *specifications* erode traditional conceptions of *professional autonomy* over work in relation to both teaching and research. Neoliberalism systematically deconstructs the space in terms of which professional autonomy is exercised.
- Traditional conceptions of *professionalism* involved an ascription of rights and powers over work in line with classical liberal notions of freedom of the individual. Market pressures increasingly encroach and redesign their traditional understandings of rights, as TEIs must adapt to market trends (for example, just as individual departments and academics are being told of the necessity for acquiring external research grants, so they are also being told they must teach summer schools).

The essence of contractual models involves a *specification*, which is fundamentally at odds with the notion of *professionalism*. *Professionalism* conveys the idea of a subject-directed power based upon the liberal conceptions of rights, freedom and autonomy. It conveys the idea of a power given to the subject, and of the subject's ability to make decisions in the workplace. No professional, whether doctor, lawyer or teacher, has traditionally wanted to have the terms of their practice and conduct dictated by anyone else but their peers, or determined by groups or structural levers that are outside of their control. As a particular patterning of power, then, professionalism is systematically at odds with neoliberalism, for neoliberals see the professions as self-interested groups who indulge in rent-seeking behaviour. In neoliberalism the patterning of power is established on contract, which in turn is premised upon a need for compliance, monitoring, and accountability organized in a management line and established through a purchase contract based upon measurable outputs.

Some recent writers have maintained that the impact of neoliberalism on the nature of professionalism is problematic. For instance, Nixon *et al.* (2001) and Du Gay (1996) argue that professionals have constructed a new form of identity more suited to managerialism. They have claimed that managerial reforms have restructured the identity of professionals. Susan Halford and Peter Leonard (1999, p. 120) also argue that 'we cannot assume that this is in any way an automatic or linear process, or that individuals respond in ways in which are consistent or coherent'. Or, as Simkins (2000, p. 330) suggests:

> It is dangerous … to draw sweeping conclusions about the replacement of the traditional bureau-professional organizational order in education by a managerial one. Rather, it is better to view the process as a dynamic one in which growing tensions between 'old' and

> 'new' are worked out within particular policy and management areas as different value systems and interests of influence.

While we are open to the contention that new 'emergent' possibilities exist, in our view neoliberalism constitutes a 'structural selectivity', in Offe's (1984) sense, that alters the nature of the professional role. Targets and performance criteria are increasingly applied from *outside* the academic role that diminish the sense in which the academic—their teaching and research—are *autonomous*. The rising importance on 'managed research', and the pressures to obtain 'funded research' constitute further evidence that academic freedom, at least in terms of the academics' determination over research are concerned, are increasingly 'compromised', or at least 'under pressure'. The extent to which the ideal expressed by Kant and Newman, of the university as an institutionally autonomous and politically insulated realm, where there are traditional commitments to a liberal conception of professional autonomy, in keeping with a public service ethic, has any relevance in a global economic order, is increasingly seen as an irrelevant concern.

Competitive neutrality as the reason of neoliberalism

One of the major objectives of the reforms in higher education has been to install relations of competition as a way of increasing productivity, accountability and control. Increased competition represents improved quality within neoliberalism. As Marginson (1997, p. 5) points out:

> Increased competition is meant to increase responsiveness, flexibility and rates of innovation … increase diversity of what is produced and can be chosen … enhance productive and allocative efficiency … improve the quality and volume of production … as well as strengthen accountability to students, employers and government.

More indirect advantages are 'internationalisation … fiscal reduction … and university–business links'. There is, he says 'an imagined line of causation from competition to consumer sovereignty to better efficiency and quality that is the virtuous ideal glowing at the core of micro-economic reform in higher education' (Marginson, 1997, p. 5).

What such a competitive ordering results in is a new type of approach to academia which, with the addition of a particular funding model, conflicts with and interferes with traditional notions of professional academic autonomy and freedom. In this process the values of disinterested inquiry and respect for the integrity of the subject matter compete with a new set of pressures to 'dumb' courses down, as well as to demonstrate their relevance to labour market conditions and prospects.

In that competitive neutrality is a state-engineered 'market-driven' programme, it must be considered as a series of supply-side levers introduced to increase responsiveness of the universities to the market order and to market interests of their customers. Yet, it must also be considered as an imperfect programme, for as Marginson (1997, p. 8) points out, the elite tertiary institutions can rely on their reputations 'obtained … in a long slow accumulation of social investment', and in this sense, the top segment of the tertiary education market is not contestable:

> As competitiveness is ratcheted upwards, the seller's market is enhanced. The leading schools and university faculties have long waiting lists. These institutions choose the student-consumer, more than the student choosing them. They do not need to become cheaper, more efficient, or more responsive to gain support, and to expand would be to reduce their positional value. (Marginson, 1997, pp. 7–8)

Marginson (1999) has observed that various organizational changes have accompanied these changes in universities under the period of neoliberal restructuring. In a major study of 'management practices in higher education' in Australia, prepared for publication as *The enterprise university: governance, strategy, reinvention* (Marginson & Considine, 2000), management practices were examined in some 17 Australian universities. Summarizing some of the findings from this study, Marginson (1999, pp. 7–8) notes the following elements as they affect the organizational form of universities:

- The emergence of a new kind of leadership in universities. In this model, the vice-chancellor is a 'strategic director and change agent'. Universities are now run as corporations according to 'formulae, incentives, targets and plans'.
- The appointment of vice-chancellors who are 'outsiders' and who are not organically linked to the institution. This practice is in turn supported by a growing apparatus of DVCs and PVCs, AVCs, executive deans, etc, with loyalty to the centre rather than to disciplines or faculties.
- The partial transformation of governing councils into corporate boards and the sidelining of academic boards.
- The rise of flexible executive-directed systems for internal university consultation and communication, from internal market research to vice-chancellors' advisory groups.
- The rise of new property structures concerning international education, intellectual property, relations with industry, and work-based training.
- The removal from collegial view of key decisions regarding governance.
- The partial breakdown of traditional disciplinary structures in the creation of schools (rather than departments) for teaching purposes.
- The creation of limited life areas of research or research centres, sponsored from above for research funding purposes.
- Research management is subject to homogenizing systems for assessing performance.
- A diminishment of the role of peer input into decisions about research.
- An increasing irrelevance of the disciplinary organization of research.
- A prioritization of research in terms of *quantity of research income* rather than in terms of *numbers of publications* produced or in terms of *quality of scholarship*.

A further consequence of marketization has been the increased emphasis on performance and accountability assessment, with the accompanying use of performance indicators and personal appraisal systems. This has generated a concern with corporate loyalty and the use of discipline against employees who criticize their universities. Universities in this model have become concerned with their market reputation and become increasingly intolerant of adverse criticism of the institution by the staff. Such

policies are the logical outcome of privatization: in the private sector employers are not permitted to criticize their employer in public. Under neoliberal corporativization many universities are employing advertising and public relations agencies to ensure that only positive statements appear about the university and its products.

From the neoliberal perspective, however, professionalism is distrusted in that it generates the conditions for opportunism, sets self-serving standards, and is prone to provider-capture. Neoliberalism has thus advocated a shift in the forms of accountability to an emphasis on market processes and quantifiable output measures. We can distinguish two main types of accountability:

- *Bureaucratic:* professional accountability, is ex-ante, where rules and regulations are specified in advance and accountability is measured in terms of process; formulated in terms of standards, based on expertise of those who work in a particular area.
- *Consumer:* managerial accountability, associated with market systems, based on price; which works in terms of contracts in which the performance is rewarded or punished according to the achievement of pre-set targets and externally imposed objectives.

Under the neoliberal period there has been a shift from 'bureaucratic–professional' forms of accountability to 'consumer–managerial' accountability models. Under consumer–managerial forms of accountability, academics must demonstrate their utility to society by placing themselves in an open market and accordingly competing for students who provide the bulk of core funding through tuition fees. If academic research has value, it can stand up to the rigors of competition for limited funds.

An ideal-type model of the internal governance of universities which indicates the conflict between neoliberal managerial and liberal professional cultures, as we are distinguishing those terms here, is presented in Figure 1 below:

Also occurring in conjunction with the neoliberal policies described above have been developments to make university courses and programmes more relevant to the world of work, as well as changes in the nature of knowledge. The rise of the professional doctorate (see Bourner *et al.*, 2000) and criticisms of traditional academic programmes and courses are significant here (Pearson & Pike, 1989; Pearson *et al.*, 1991; Becher *et al.*, 1994; Harris, 1996; Clarke, 1998; DfEE, 1999). As universities are adapted to the market order there has been growing concern about the limited impact of research on professional practice and a shifting emphasis towards evidence-based practice (Sackett *et al.*, 1996).

In some disciplinary areas, such as Education, neoliberalism has seen a move towards a concentration on professional work-based (as opposed to academic) practice, such as has occurred in relation to teacher education. This has encouraged not only thee growth of professional doctorates but a new theoretical literature, linked to the professional goals now pursued. Schon's *The reflective practitioner* (1983) offers an understanding of the process by which practitioners enhance their professional capabilities. In addition, concepts such as 'situated learning' (Lave & Wenger, 1991) and 'communities of practice' (Wenger & Snyder, 2000) link with the concept of the

	Neoliberal	Liberal
Mode of operation	Private	Public
Mode of control	'Hard' managerialism; contractual specification between principal–agent; autocratic control	'Soft' managerialism; collegial–democratic voting; professional consensus; diffuse control
Management function	Managers; line-management; cost centres	Leaders; community of scholars; professions; faculty
Goals	Maximize outputs; financial profit; efficiency; massification; privatization	Knowledge; research; inquiry; truth; reason; elitist; not-for-profit
Work relations	Competitive; hierarchical; workload indexed to market; corporate loyalty; no adverse criticism of university	Trust; virtue ethics; professional norms; freedom of expression and criticism; role of public intellectual
Accountability	Audit; monitoring; consumer–managerial; performance indicators; output-based (ex post)	'Soft' managerialism; professional–bureaucratic; peer review and facilitation; rule-based (ex ante)
Marketing	Centres of excellence; competition; corporate image; branding; public relations	The Kantian ideal of reason; specialization; communication; truth; democracy
Pedagogy/teaching	Semesterization; slenderization of courses; modularization; distance learning; summer schools; vocational; Mode 2 knowledge	Full year courses; traditional academic methods and course assessment methods; knowledge for its own sake; Mode 1 knowledge
Research	Externally funded; contestable; separated from teaching; controlled by government or external agency	Integrally linked to teaching; controlled from within the university; initiated and undertaken by individual academics

Source: Olssen, 2002, p. 45.

Figure 1. Ideal-type model of internal governance of universities

'reflective practitioner', and also with those of 'experiential learning', 'critical thinking' and 'critical reflection' to constitute a *transformed* theoretical infrastructure to the new understanding of academic theory as preparation for the world of professional work.

As well as trends towards an increased emphasis upon practitioner research and a growing emphasis on work-based learning, there has been a growth in alternative sources of knowledge outside the universities, a shift from an elite system of higher education to a mass system of higher education, an increasing emphasis on transferable skills, and a general shift towards vocationalism and professionalism in higher education.

In addition, there has been an increasing legitimacy within the university of new forms of knowledge. Gibbons *et al*'s (1994) distinction between Mode 1 and Mode 2 knowledge is relevant here. Mode 1 knowledge is that which has been traditionally produced in the academy separately from its use. Mode 2 knowledge, by contrast, is knowledge which is produced in-use, linked directly to the functional imperatives of the world of work.[4] According to Bourner *et al.* (2000, p. 22):

> Mode 2 knowledge is likely to be produced by practitioners through reflection on practice or as a result of learning their way out of problems encountered in situ at work. It is less likely than mode 1 knowledge to respect traditional academic disciplines, and is work-based knowledge rather than campus-based knowledge.

The authors then cite Brennan and Little (1996, p. 33) who state:

> … mode 2 knowledge production takes place largely in the market or social arena. Unlike mode 1 knowledge, mode 2 does not require a 'privileged' and 'protected' arena for its development. It (knowledge) is no longer only an 'input' into social and economic processes, it is also an important 'output' of such processes.

Knowledge as the new form of capital under neoliberalism

The most significant material change that underpins neoliberalism in the twenty-first century is the rise in the importance of knowledge as capital. This change, more than any, propels '*the neoliberal project of globalization*'—an outcome of the Washington consensus and modeled by world policy agencies such as the IMF and World Bank—which has predominated in world policy forums at the expense of alternative accounts of globalization.[5] It is an account that universalizes policies and obscures country and regional differences. It also denies the capacity of local traditions, institutions and cultural values to mediate, negotiate, reinterpret and transmute the dominant model of globalization and the emergent form of knowledge capitalism on which it is based. Yet the voices of criticism, even from mainstream economists, have been raised against this monolithic and homogenizing model of globalization.

For example, Joseph Stiglitz, as former Chief Economist of the World Bank, has recently criticized the policy decisions of the International Monetary Fund (IMF) as 'a curious blend of ideology and bad economics'. In particular, he argues that the IMF's structural adjustment policies, imposed on developing countries, have led to hunger and riots in many countries and precipitated crises that have led to greater poverty and international inequalities. Elsewhere, Stiglitz identifies the new global 'knowledge economy' as one that differs from the traditional industrial economy in terms of the scarcity-defying characteristics of ideas. He suggests 'movement to the knowledge economy necessitates a rethinking of economic fundamentals' because, he

maintains, knowledge is different from other goods in that it shares many of the properties of a *global* public good which implies a key role for governments in protecting intellectual property rights in a global economy marked by greater potential monopolies than those of the industrial age (Stiglitz, 1999; also see Peters, 2000d, e, 2001, 2002b).

Yet at the heart of Joseph Stiglitz's (2002) analysis of globalization and its discontents is an approach based on the economics of information—in particular, *asymmetries of information*—and its role in challenging standard economic models of the market that assumed perfect information. Information economics provide better foundations for theories of labor and financial markets. His work on the role of information in economics evolved into an analysis of the role of information in political institutions, where he emphasized:

> … the necessity for increased transparency, improving the information that citizens have about what these institutions do, allowing those who are affected by the policies to have a greater say in their formulation. (Stiglitz, 2002, p. xii)

The transformation of knowledge production and its legitimation, as Stiglitz indicates, are central to an understanding of neoliberal globalization and its effects on education policy. If transformations in knowledge production entails a rethinking of economic fundamentals, the shift to a knowledge economy also requires a profound rethinking of education as emerging forms of knowledge capitalism, involving knowledge creation, acquisition, transmission and organization.

The term 'knowledge capitalism' emerged only recently to describe the transition to the so-called 'knowledge economy', which we characterize in terms of the economics of abundance, the annihilation of distance, the de-territorialization of the state, and, investment in human capital (see Figure 2). As the business development and policy advocate Burton-Jones (1999, p. vi) puts it, 'knowledge is fast becoming the most important form of global capital—hence "knowledge capitalism"'. He views it as a new *generic* form of capitalism as opposed simply to another regional model or variation. For Burton-Jones and analysts of world policy agencies such as the World Bank and OECD, the shift to a knowledge economy involves a fundamental rethinking of the traditional relationships between education, learning and work, focusing on the need for a new coalition between education and industry. 'Knowledge capitalism' and 'knowledge economy' are twin terms that can be traced at the level of public policy to a series of reports that emerged in the late 1990s by the OECD (1996a) and the World Bank (1998), before they were taken up as a policy template by world governments in the late 1990s (see Peters, 2001). In terms of these reports, education is reconfigured as a massively undervalued form of knowledge capital that will determine the future of work, the organization of knowledge institutions and the shape of society in the years to come.

With respect to the economics of knowledge and information today we can tentatively identify at least six important strands, all beginning in the post-war period and all but one (i.e., New Growth Theory) associated with the rise to prominence of the neoclassical second (1960s–1970s) and third (1970s–today) Chicago schools.[6]

The knowledge economy differs from the traditional economy in several key respects:

1. The economics is not of scarcity, but rather of abundance. Unlike most resources that deplete when used, information and knowledge can be shared, and actually grow through application.
2. The effect of location is diminished. Using appropriate technology and methods, virtual marketplaces and virtual organizations can be created that offer benefits of speed and agility, of round the clock operation and of global reach.
3. Laws, barriers and taxes are difficult to apply on solely a national basis. Knowledge and information 'leak' to where demand is highest and the barriers are lowest.
4. Knowledge enhanced products or services can command price premiums over comparable products with low embedded knowledge or knowledge intensity.
5. Pricing and value depends heavily on context. Thus the same information or knowledge can have vastly different value to different people at different times.
6. Knowledge when locked into systems or processes has higher inherent value than when it can 'walk out of the door' in people's heads.
7. Human capital—competencies—are a key component of value in a knowledge-based company, yet few companies report competency levels in annual reports. In contrast, downsizing is often seen as a positive 'cost cutting' measure.

Source: David Skyrme Associates home page (www.skyrme.com/insights/21gke.htm).

Figure 2. Characteristics of the knowledge economy

- The economics of information pioneered by Jacob Marschak (and co-workers Miyasawa and Radner) and George Stigler, who won the Nobel Memorial Prize for his seminal work in the economic theory of information.
- Fritz Machlup (1962) who laid the groundwork and developed the economics of the production and distribution of knowledge (see Mattessich, 1993).
- The application of free-market ideas to education by Milton and Rose Friedman (1962), although Friedman's form of monetarism has become relatively less important.
- The economics of human capital developed first by Theodore Schultz (1963) and later by Gary Becker (e.g., 1964) in New Social Economics.
- Public Choice Theory developed under James Buchanan and Gordon Tullock (1962).

New Growth Theory has highlighted the role of education in the creation of human capital and in the production of new knowledge. It has also explored the possibilities of education-related externalities, not specified by neoclassical theory. The public policy focus on science and technology, in part, reflects a growing consensus in macroeconomics of 'new growth' or 'endogenous growth theory', based on the work of Solow (1956, 1994), Lucas (1988) and Romer (1986, 1990, 1994), that the driving force behind economic growth is technological change (i.e., improvements in knowledge about how we transform inputs into outputs in the production process). On this model technological change is *endogenous*, 'being determined by the deliberate

activities of economic agents acting largely in response to financial incentive' (Snowdon & Vane, 1999, p. 79). The neoclassical growth model developed by Solow assumed technology to be exogenous and therefore available without limitation across the globe. Romer's endogenous growth model, by contrast, demonstrates that technology is not a pure public good for while ideas are *non-rivalrous* they are also partially *excludable* through the legal system and patents. The policy implication is twofold: knowledge about technology and levels of information flow are critical for economic development and can account for differential growth patterns. Knowledge gaps and information deficiencies can retard growth prospects of poor countries, while technology transfer policies can greatly enhance long-term growth rates and living standards.[7] Let us now turn to three accounts of knowledge capitalism that represent a new orthodoxy.

The knowledge economy: reports of world policy agencies

The OECD and New Growth Theory

The OECD report *The knowledge-based economy* (1996a) begins with the following statement:

> OECD analysis is increasingly directed to understanding the dynamics of the knowledge-based economy and its relationship to traditional economics, as reflected in '*new growth theory*'. The growing codification of knowledge and its transmission through communications and computer networks has led to the emerging '*information society*'. The need for workers to acquire a range of skills and to continuously adapt these skills underlies the '*learning economy*'. The importance of knowledge and technology diffusion requires better understanding of knowledge networks and '*national innovation systems*'.

The report is divided into three sections focusing on trends and implications of the knowledge-based economy, the role of the science system in the knowledge-based economy and indicators, essentially a section dealing with the question of measurement (see also OECD, 1996b, 1996c, 1997; Foray & Lundvall, 1996). In the Summary, the OECD report discusses *knowledge distribution* (as well as knowledge investments) through formal and informal networks as being essential to economic performance and hypothesizes the increasingly codification of knowledge in the emerging '*information society*'. In the knowledge-based economy 'innovation is driven by the interaction of producers and users in the exchange of both codified and tacit knowledge'. The report points to an interactive model of innovation (replacing the old linear model), which consists of knowledge flows and relationships among industry, government and academia in the development of science and technology. With increasing demand for more highly skilled knowledge workers, the OECD indicates:

> Governments will need more stress on upgrading human capital through promoting access to a range of skills, and especially the capacity to learn; enhancing the *knowledge distribution power* of the economy through collaborative networks and the diffusion of technology; and providing the enabling conditions for organisational change at the firm level to maximise the benefits of technology for productivity. (p. 7)

The science system—public research laboratories and institutions of higher education—is seen as one of the key components of the knowledge economy, and the report identifies the major challenge as one of reconciling traditional functions of knowledge production and training of scientists with its newer role of collaborating with industry in the transfer of knowledge and technology.

In their analysis of the knowledge-based economy in one of the earliest reports to use the concept, the OECD observe that economies are more strongly dependent on knowledge production, distribution and use than ever before and that knowledge-intensive service sectors (especially education, communications and information) are the faster growing parts of western economies, which, in turn, are attracting high levels of public and private investment (spending on research reached an average of 2.3 and education accounts for 12% of GDP in the early 1990s). The report indicates how knowledge and technology have always been considered external influences on production and that now new approaches are being developed so that knowledge can be include more directly. (The report mentions Friedrich List on knowledge infrastructure and institutions; Schumpeter, Galbraith, Goodwin and Hirschman on innovation; and Romer and Grossman on New Growth Theory). New Growth Theory, in particular, demonstrates that investment in knowledge is characterized by increasing rather than decreasing returns, a finding which modifies the neoclassical production function that argues returns diminish as more capital is added to the economy. Knowledge also has spill-over functions from one industry or firm to another, yet types of knowledge vary: some kinds can be easily reproduced and distributed at low cost, while others cannot be easily transferred from one organization to another or between individuals. Thus, knowledge (as a much broader concept than information) can be considered in terms of '*know-what*' and '*know-why*', broadly what philosophers call propositional knowledge ('knowledge that') embracing both factual knowledge and scientific knowledge, both of which come closest to being market commodities or economic resources that can be fitted into production functions. Other types of knowledge, what the OECD identify as '*know-how*' and '*know-who*' are forms of tacit knowledge (after Polanyi, 1967; also see Polanyi, 1958) which are more difficult to codify and measure. The OECD report indicates that '*Tacit knowledge* in the form of skills needed to handle codified knowledge is more important than ever in labour markets' (p. 13, emphasis in original) and reason 'Education will be the centre of the knowledge-based economy, and learning the tool of individual and organisational advancement' (p. 14), where '*learning-by-doing*' is paramount.[8]

Stiglitz and the World Bank: knowledge for development

The World Development Report *Knowledge for development* (The World Bank, 1998), as its President James D. Wolfensohn summarizes, 'examines the role of knowledge in advancing economic and social well being'. He indicates:

> It [the report] begins with the realization that economics are built not merely through the accumulation of physical and human skill, but on the foundation of information, learning and adaptation.

The World Development Report is significant in that it proposes that we look at the problems of development in a new way—from the perspective of knowledge. Indeed, Joseph Stiglitz, ex-Chief Economist of the World Bank, who recently resigned over ideological issues, ascribed a new role for the World Bank. He draws an interesting connection between knowledge and development with the strong implication that universities as traditional knowledge institutions have become the leading future service industries and need to be more fully integrated into the prevailing mode of production—a fact not missed by countries like China who are busy restructuring their university systems for the knowledge economy. He asserts that the World Bank has shifted from being a bank for infrastructure finance to being what he calls a 'Knowledge Bank'. He writes:

> We now see economic development as less like the construction business and more like education in the broad and comprehensive sense that covers, knowledge, institutions and culture. (Stiglitz, 1999, p. 2)

Stiglitz argues that the 'movement to the knowledge economy necessitates a rethinking of economic fundamentals' because, he maintains, knowledge is different from other goods in that it shares many of the properties of a *global* public good. This means, among other things, a key role for governments in protecting intellectual property rights, although appropriate definitions of such rights are not clear or straightforward. It signals also dangers of monopolization, which, Stiglitz suggests, may be even greater for knowledge economies than for industrial economies.

The World Development Report *Knowledge for Development* focuses on two types of knowledge and two problems that are taken as critical for developing countries—*knowledge about technology*, that is technical knowledge or simply 'know-how' such as nutrition, birth control or software engineering, and *knowledge about attributes* such as the quality of a product or the diligence of a worker. Developing countries typically have less 'know-how' than advanced countries which the World Bank report calls *knowledge gaps*. Often developing countries also suffer from incomplete knowledge of attributes, which the report calls *information problems*. Development, thus, is radically altered in this conceptualization, where it becomes a matter of narrowing knowledge gaps through national policies and strategies for *acquiring*, *absorbing* and *communicating* knowledge, and addressing information problems through national policies designed to process the economy's financial information, increase knowledge of the environment and address information problems that hurt the poor. The actual details are less important than the way in which Hayekian views have inserted themselves in the World Bank's changed picture of development economics, an economics now centrally motivated by questions of knowledge and information.

Let us briefly note the importance of education to this development recipe. Acquiring knowledge not only involves using and adapting knowledge available elsewhere in the world—best acquired, so the report argues, through an open trading regime, foreign investment, and licensing agreements—but also local knowledge creation through research and development and building upon indigenous knowledge. Absorbing knowledge is the set of national policies that centrally concerns education,

including universal basic education (with special emphasis on extending girls' education and other disadvantaged groups), creating opportunities for lifelong learning, and supporting tertiary education, especially science and engineering. Communicating knowledge involves taking advantage of new information and communications technology, as the report would have it, through increased competition, private sector provision and appropriate regulation. Arguably, without delving further into this substantial report, the World Bank maintains its neoliberal orientation with an emphasis on open trade and privatization, although it is recast in terms of the perspective of knowledge.

Stiglitz, perhaps, deviates more from the Washington consensus. In a series of related papers delivered in his role as Chief Economist for the World Bank he (Stiglitz, 1999a) argues that knowledge is a public good because it is non-rivalrous, that is, knowledge once discovered and made public, operates expansively to defy the normal 'law' of scarcity that governs most commodity markets.[9] Knowledge in its immaterial or conceptual forms—ideas, information, concepts, functions and abstract objects of thought—are purely non-rivalrous, that is, there is essentially zero marginal costs to adding more users. Yet once materially embodied or encoded, such as in learning or in applications or processes, knowledge becomes costly in time and resources. The pure non-rivalrousness of knowledge can be differentiated from the low cost of its dissemination, resulting from improvements in electronic media and technology, although there may be congestion effects and waiting time (to reserve a book, or download from the Internet). Stiglitz (1999a) delivered his influential paper 'Public policy for a knowledge economy' to the UK's Department for Trade and Industry and Center for Economic Policy Research on the eve of the release of the UK White Paper *Our competitive future: building the knowledge driven economy* (www.dti.gov.uk/comp/competitive/main.htm) which subsequently became a template for education policy in England and Scotland (see Peters, 2001). The paper also provides a useful guide for understanding some of the analytics of the knowledge economy (see Figure 3).

While non-rivalrous, knowledge can be *excluded* (the other property of a pure public good) from certain users. The private provision of knowledge normally requires some form of legal protection otherwise firms would have no incentive to produce it. Yet knowledge is not an ordinary property right. Typically, basic ideas, such as mathematical theorems, on which other research depends, are not patentable and, hence, a strong intellectual property right regime might actually inhibit the pace of innovation. Even though knowledge is not a pure public good, there are extensive externalities (spillovers) associated with innovations. As he notes, the full benefits of the transistor, microchip or laser did not accrue to those who contributed to those innovations.

While competition is necessary for a successful knowledge economy, Stiglitz maintains, knowledge gives rise to a form of increasing returns to scale, which may undermine competition for with large network externalities, forms of monopoly knowledge capitalism (e.g., Microsoft) become a possible danger at the international level. New technologies provide greater scope for the suppression of competition and, if creativity is essential for the knowledge economy, then small enterprises may provide a

It is argued that the knowledge economy is different from the traditional industrial economy because knowledge is fundamentally different from other commodities, and that these differences, consequently, have fundamental implications both for public policy and for the mode of organization of a knowledge economy.

1. The scarcity-defying characteristics of ideas:
   (i) *Non-rivalry*
   (ii) *Conceptual vs material knowledge*

2. Intellectual property rights
   (i) *Excludability*
   (ii) *Externalities*
   (iii) *Competition*

3. Organizational dimensions of knowledge
   (i) *Knowledge markets*
   (ii) *Knowledge transactions within firms*
   (iii) *Openness and knowledge transfer*
   (iv) *Experimentation*

4. The marketplace of ideas
   (i) *Pluralism in project selection*
   (ii) *Robustness*
   (ii) *The failure of central planning*
   (iii) *Decentralization and participation within firms*
   (iv) *Openness in the political process*

Source: adapted from Stiglitz (1999).

Figure 3. Analytics of the knowledge economy

better base for innovation than large bureaucracies. Significantly, Stiglitz provides some grounds for government funding of universities as competitive knowledge corporations within the knowledge economy and for government regulation of knowledge or information monopolies, especially those multinational companies that provide the so-called information infrastructure.

On the basis of this analysis Stiglitz provides a number of pertinent observations on the organizational dimensions of knowledge. He maintains that just as knowledge differs from other commodities so too knowledge markets differ from other markets. If each piece of information differs from every other piece, then information cannot satisfy the essential market property of *homogeneity*. Knowledge market transactions for non-patented knowledge requires that I disclose something and thus risk losing property. Thus, in practice, markets for knowledge and information depend critically on reputation, on repeated interactions, and, also significantly, on trust.

On the supply side, knowledge transactions within firms and organizations require trust and reciprocity if knowledge workers are to share knowledge and codify their tacit knowledge. Hoarding creates a vicious circle of knowledge restriction, whereas

trust and reciprocity can create a culture based on a virtuous circle of knowledge sharing. On the demand side, *learning cultures* (my construction) will artificially limit demand for knowledge if they denigrate any requests for knowledge as an admission of ignorance.

He argues that these knowledge principles carry over to knowledge institutions and countries as a whole. If basic intellectual property rights are routinely violated, the supply of knowledge will be diminished. Where trust relationships have been flagrantly violated learning opportunities will vanish. Experimentation is another type of openness, which cannot take place in closed societies or institutions hostile to change. Finally, he argues that changes in economic institutions have counterparts in the political sphere, demanding institutions of the open society such as a free press, transparent government, pluralism, checks and balances, toleration, freedom of thought and open public debate. This political openness is essential for the success of the transformation towards a knowledge economy.

Burton-Jones and knowledge capitalism

Perhaps the most developed 'model' of knowledge capitalism, together with the most worked out implications for education, comes from a book of that title—*Knowledge capitalism: business, work, and learning in the new economy* by Alan Burton-Jones (1999).[10] Burton-Jones states his thesis in the following way:

> The fundamental proposition of the book is that among the various factors currently causing change in the economy, none is more important than the changing role of *knowledge*. … As the title of the book suggests, knowledge is fast becoming the most important form of global capital—hence 'knowledge capitalism'. Paradoxically, knowledge is probably the least understood and most undervalued of all economic resources. The central theme of this book is, therefore, the nature and value of knowledge and how it is fundamentally altering the basis of economic activity, thus business, employment, and all of our futures. The central message is that we need to reappraise many of our industrial era notions of business organization, business ownership, work arrangements, business strategy, and the links between education, learning and work (p. vi).

He argues that the distinctions between managers and workers, learning and working, are becoming blurred so that we all become owners of our own intellectual capital, all knowledge capitalists—at least in the western advanced economies. And he goes on to chart the shift to the knowledge economy, new models of knowledge-centred organization, the imperatives of knowledge supply (as opposed to labour supply), the decline in traditional forms of employment and the knowledge characteristics of work. He argues that 'economic demand for an increasingly skilled workforce will necessitate a move to lifelong learning' (p. vii) based upon the learning imperative, including the use of learning technologies, that will lead to the development of a global learning industry and to profound 'changes to the relationships involving learners, educators and firms' (ibid.). Burton-Jones addresses himself to the question of how governments might assist in the transition to the knowledge economy by focusing on knowledge acquisition (education, learning, skills formation) and

knowledge development (research, innovation) policies, suggesting that while most of the changes have occurred as a spontaneous response to the demands of the market rather than through state intervention, the state has an important role to play. He is less enthusiastic than Stiglitz or Thurow about the proposition that the increasing importance of knowledge in the economy, might lead to a reversal of current trends leading to an increasing role for the state.

Our speculative hypothesis, not investigated in any length in this paper, is that knowledge capitalism will exhibit different patterns of production, ownership and innovation according to five basic regional models of capitalism. These five regional models, in part, based on different cultural understandings of knowledge and learning, not only represent cultural differences over the meaning and value of knowledge but also will provide a major index for regional differences in education policy.

We can talk of Anglo-American capitalism, European social market capitalism, French state capitalism and the Japanese model. Clearly, one might also talk of an emergent fifth model based on China's market socialism. A recent World Bank study, for instance, has suggested that the Chinese government must take on the new role of architect of appropriate institutions and provider of incentives to promote and regulate a new socialist market economy based on knowledge (see Dahlman & Aubert, 2001).[11]

Yet the notion of the knowledge economy also represents something of an anomaly. With the massive sweep of neoliberal reforms restructuring and privatizing the state sector, national education systems remain overwhelmingly part of the public sector, both state-owned and state-controlled. This is despite the recent wave of reforms in education emphasizing choice and diversity through forms of privatization or joint public-private funding partnerships, such as the Private Finance Initiative (PFI) in the UK. Moreover, the state provision of an increasingly 'massified' system of formal education is still the dominant form of the organization of knowledge. Advocates of knowledge capitalism argue that state systems are struggling to release themselves from older predominantly industrial organizational forms to take advantage of more flexible and customized forms of delivery, underwritten by developments in ICT and based on notions of 'choice and 'diversity' (e.g., Burton-Jones). Paradoxically, at a point historically when the interventionist state has been rolled back and when world governments have successfully eased themselves out of the market, often substituting market mechanisms for the allocation of scarce public goods and services, governments find themselves as the major owners and controllers of the means of knowledge production in the new knowledge economy. While some economists and policy analysts have argued that there are new grounds for reappraising the role for the state in the knowledge economy (Stiglitz, 1999; Thurow, 1996), most governments have pursued policies that have followed a process of incremental and parallel privatization designed to blur the boundaries between the public and the private, learning and work.

In the age of knowledge capitalism, we can expect governments in the west to further ease themselves out of the public provision of education as they begin in earnest to privatize the means of knowledge production and experiment with new

ways of designing and promoting a permeable interface between knowledge businesses and public education at all levels. In the last decade educationalists have witnessed the effects of the Hayekian revolution in the economics of knowledge and information, we have experienced the attack on 'big government' and reductions of state provision, funding and regulation. In the age of knowledge capitalism the next great struggle after the 'culture wars' of the 1990s will be the 'education wars', a struggle not only over the meaning and value of knowledge both internationally and locally, but also over the public means of knowledge production. As Michel Foucault (1991b, p. 165) argued in the early 1980s in conversation with the Italian communist Duccio Trombadori:

> We live in a social universe in which the formation, circulation and utilization of knowledge presents a fundamental problem. If the accumulation of capital has been an essential feature of our society, the accumulation of knowledge has not been any less so. Now, the exercise, production and accumulation of this knowledge cannot be dissociated from the mechanisms of power; complex relations exist which must be analyzed.

Notes

1. Hayek's earliest statement is in *The counter-revolution of science: studies in the abuse of reason* (1952) where he defends a qualitative discontinuity between methods of natural and social sciences. There were also Kantian influences on Hayek's subjectivism in that, following Kant, he rejected the idea that knowledge could be constructed from a basis of raw sensory data, seeing order that we find in the world as a product of the creative activity of the human mind but suspecting that there are inherent limitations to the possibility of full explicit knowledge, and, in particular, an impossibility of ever fully explaining a mind as complex as our own (see Hayek, 1978, p. 45, note 14). In addition, relatedly, Hayek denies the ontological independence of mind a la Descartes, denies the possibility of complete intellectual self-understanding, and denies any foundationalism, seeing all criticism of social life as immanent criticism, and social order itself as spontaneous creation rather than as a rational construction.
2. There is an extensive literature on Agency Theory including Althaus (1997), Bendor (1988), Bergman and Lane (1990), Braun (1993), Boston (1991, 1996a, b), Chan and Rosenbloom (1994), Deane (1989), Eisenhardt (1989), Heymann (1988), Jennings and Cameron (1987), Jensen and Meckling (1976), Kay (1992), Levinthal (1988), Moe (1984, 1990, 1991), Palmer (1993), Perrow (1986a, b), Petersen (1993), Pratt and Zeckhauser (1985), Rees (1985a, b), Scott and Gorringe (1989), Simon (1991), Thompson and Wright (1988), Treblicock (1995), Weingast (1984) and Wistrich (1992).
3. For an introduction to Transaction Cost Economics see Boston (1994), Boston *et al.* (1996b), Bryson and Smith-Ring (1990), Dow (1987), Perrow (1986a, b), Vining and Weimer (1990), Williamson (1975, 1983, 1985, 1991, 1992).
4. Bourner *et al.* (2000) describe Mode 1 knowledge in terms of: knowing through contemplation; knowing that; knower as spectator; propositional knowledge; theoretical knowledge; knowledge for its own sake; knowledge about the world; knowledge that is produced and tested in the academy by researchers. Mode 2 knowledge is: knowing through action; knowing how; knower as agent; knowledge as reflection on practice; practical knowledge; working knowledge; knowledge in the world; knowledge that is created and tested in action in the world by practitioners.
5. There is a huge literature criticizing globalization and suggesting alternatives. See, for example, Appadurai (2001), Bell (2001), Mandle (2002)
6. See the New School site on the Chicago School: http://cepa.newschool.edu/het/schools/chicago.htm.

7. This is not to deny that other social sciences have contributed to the discourse on the knowledge economy and its earlier sibling concept of the knowledge society. In sociology, for instance, the notion of postindustrial society was first coined by Daniel Bell (1974) and Alain Touraine (1973) 20 years ago, and developed as the information society and the network society by Manuel Castels (2000). In management theory, knowledge capitalism has been picked up in terms of the burgeoning field of 'knowledge management'.
8. The emphasis on tacit knowledge is developed out of the work of Polanyi (1958, 1967), which is also strongly developed in terms of the concept of practice in both Heidegger and Wittgenstein. The emphasis on *practice*, perhaps, is a major distinguishing characteristic of much twentieth-century philosophy, sociology and cultural analysis (see Turner, 1994) with a focus on the practical over the theoretical and 'background practices' against which theoretical knowledge is articulated and/or codified. The concept of practice, mostly unexamined figures largely in education and pedagogy and in the relatively new concept of 'communities of practice' that has been developed in the context of business and organizational learning.
9. This section on Stiglitz draws on the section 'Analytics of the knowledge economy' from my recent paper 'University, globalization and the knowledge economy' (Peters, 2002).
10. For a recent article by Burton-Jones see the inaugural issue of the web-based new start-up journal *Policy futures in education,* co-edited by myself and Walter Humes and available at Triangle Publications from 2003 (www.triangle.co.uk). The inaugural issue is devoted to 'Education and the knowledge economy' with contributions from Paul A. David and Dominique Forey, Gerarde Delanty, Steve Fuller and many others.
11. Dahlman and Aubert (2001) argue that improving education is perhaps the most critical reform for the medium and long runs.

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