Research & Occasional Paper Series: CSHE.4.06
CSHE | Center for Studies in Higher Education
UNIVERSITY OF CALIFORNIA, BERKELEY
http://cshe.berkeley.edu/

MARKETS IN HIGHER EDUCATION: CAN WE STILL LEARN FROM ECONOMICS' FOUNDING FATHERS?*

March 2006

Pedro Nuno Teixeira
Assistant Professor of Economics; Research Associate, CEMPRE and CIPES
University of Porto
and
Visiting Scholar, Center for Studies in Higher Education, UC Berkeley

ABSTRACT

Markets or market-like mechanisms are playing an increasing role in higher education, with visible consequences both for the regulation of higher education systems as a whole, as well as for the governance mechanisms of individual institutions. This article traces the history of economists' views on the role of education, from Adam Smith, John Stuart Mill, Alfred Marshall, and Milton Friedman, to present-day debates about the relevance of market economies to higher education policy. Recent developments in higher education policy reflect both the rising strength of market mechanisms in higher education worldwide, and a certain ambivalence about these developments. The author argues that despite the peculiarities of the higher education sector, economic theory can be a very useful tool for the analysis of the current state of higher education systems and recent trends in higher education policy.

Introduction

Markets or market-like mechanisms are playing an increasing role in higher education, with visible consequences both for the regulation of higher education (HE)

---

* The author is Assistant Professor in the Economics Department at the University of Porto and Research Associate of CEMPRE (Centre for Macroeconomics and Forecasting) and CIPES (Portuguese National Research Centre on Higher Education Policy). CEMPRE and CIPES are funded by the Portuguese National Foundation for Science and Technology (FCT). An earlier version of this paper was presented at Fulbright Brainstorms 2004 - New Trends in Higher Education (Lisbon, September 2004). The current version was prepared while the author was a Visiting Scholar at the Center for Studies in Higher Education at UC Berkeley (April-July 2005). The author is grateful to CSHE for their excellent hospitality during that period. Parts of this text continue the work presented in Teixeira et al. (2004a) and Teixeira et al. (2005). Financial support from the Gulbenkian Foundation is also gratefully acknowledged.

systems, as well as for the governance mechanisms of HE institutions. However, despite the market-friendly attitudes of many governments, it remains to be seen if HE markets have been really implemented or if instead markets are only a rhetorical device. Economists normally regard markets as a mechanism for organising the exchange of goods and services based upon price, rather than upon other considerations such as tradition or authority.

Leading economists and political economists have always been tempted to apply their reasoning about the material world to educational issues. Since the market is arguably the central concept in economics, it is hardly a surprise that economists have considered the application of market framework to education in general and higher education in particular. However, they have hesitated, leading to the postponement of the emergence, as a structured field, of the economic analysis of education. Their reflections have nevertheless nurtured and shaped the views of contemporary economists about education and the nuances in the application of economic principles to educational issues.

In this paper I will start by sketching the views of four leading figures in the history of economics and the main aspects of their work that have had a lasting influence in the contemporary economic debate about education. I will then analyse the developments in terms of higher education policy that illustrate both the rising strength of market mechanisms in higher education worldwide, and a certain ambivalence about these developments. Some final remarks will attempt to summarize the current discussion.

Constructing the Canon – Economics' Founding Fathers' Views on Higher Education

Since the emergence of economics, or more precisely political economy, as an autonomous body of knowledge in the late eighteenth century, economists have been attracted to the peculiar subject of education, and particularly to universities. Hence, throughout the last two and a half centuries several leading figures in economics have reflected about the proper role of education, and more interestingly for contemporary economists, about the economic nature and dimensions of (higher) education. In these reflections we find the roots of most of the contemporary economic discourse on the applicability of markets to (higher) education.

Adam Smith and the Unleashing of Market Forces

As a good disciple of the Scottish Enlightenment, Adam Smith had great confidence in the power of education to mould and improve human behaviour, and he played down the importance of factors such as abilities and natural influences in accounting for differences in human character (1976: 28-29). These differences, promoted by social intercourse and education, would become increasingly useful, since the greater the difference of talents, the greater the difference of professions, and necessarily of products. Combined with the disposition to truck, barter, and exchange, this meant that the entire community would benefit from the productive outcome of these differences. For Adam Smith the price of labour had to provide a compensation for formal education, notably in those cases in which the individual underwent a long process of education before beginning working life (1978: 495). The use of metaphors like instruments or machines to denominate workers (especially the educated ones) was not merely rhetorical, since education was also an important source of society's total capital (1976: 118-9) and the acquired abilities through education were part of the nation's capital (1976: 282).[1]

For Smith, education was important because it provided what modern economists would call social benefits of education. Education improved moral standards, provided individuals with subjects of thought and speculation, promoted a more peaceful character (and thus a more stable society), and curbed youngsters to the authority of the parents (1978: 540). Education also promoted a better understanding and judgement of government policies and made the lower classes less vulnerable to political intrigue and conspiracy (1976: 788).

Adam Smith clearly favoured the role of private initiative over public ones in the provision of education, by relying on the effectiveness of competition, which, by stimulating rivalry and emulation, promoted excellence in terms of educational provision (1976: 759). The learning of the basic and most essential skills—reading, writing and counting—were reasonably performed, in quantity and in quality, by private institutions (1976: 772-3). On the contrary, public institutions, namely Universities, were not only frequently ineffective in their teaching, but also highly resistant to the introduction of new advances in knowledge. These kinds of privileges being awarded to public institutions was not only harmful to those institutions, but also to private ones, since it promoted inefficiency and idleness in the former, and obstructed the development of the latter (see also 1977: 173-9). Moreover, Adam Smith preferred processes of learning with a strong practical emphasis which, he thought, were normally overlooked by public institutions.

Despite the objections to public intervention, there were a few circumstances that required some state role in education. The main reason for state intervention was to neutralize some of the effects of the extensive development of the division of labour. Although the division of labour was a major force for a greater accumulation of wealth, due to the enhanced productivity associated with specialisation, the development of this process meant that the tasks performed by each individual became simpler and this simplicity prevented individuals from using their overall intellectual capacities. This narrower intellectual activity would also damage their capacity of judgement and their martial spirit, which were two important conditions for civilisation (1976: 782). This process would inevitably affect the labouring classes unless government took some measures to alleviate its impact. Whereas the upper classes tended to join professional activity at a later stage in life, after already having achieved a consolidated level of intellectual knowledge, common people, with scarcer time and money, would hardly achieve a reasonable level of education. This was not only due to the direct costs of studying, but especially to the opportunity costs of education, i.e., the pressure to start working as early as possible. This situation would be worsened by the fact that their subsequent conditions of life would narrow even further this already low intellectual level, since they would perform simple and uniform tasks in long working schedules (1976: 784-5).

Hence, the government was called to play a role mainly in the case of the labouring classes. Public support would consist of the promotion of a network of parish or district elementary schools, with shared costs between public and private sources. The government would take charge of the fixed costs, namely by providing a building where the activities would take place, and a part of the current costs (a part of the teacher wages); and parents would assume the running costs of the schools, especially the remuneration of the teachers. Since both government and workers

[1] For more on the relationship between Smith's work and modern human capital theory, see Teixeira (2006).

benefited from education, and in order to promote both efficiency and enlightenment, both should participate in its costs, with additional support potentially coming from private donors (1976: 815). Although Smith did not propose compulsory basic education, he suggested instruments that would indirectly promote universal basic education, such as the requirement of an examination on those basic skills for every individual seeking to join a corporation or start any business (1976: 786).

John Stuart Mill and the Emergence of Paternalism

John Stuart Mill was the classical political economist who arguably wrote most extensively on education. For Stuart Mill, education had various benefits at the individual and the social levels, as well as moral, political, and economic impacts. At the political level, this was related to the advantages of a progressive enlargement of political participation, which necessitated prior education. Although an elite was in general better educated, and more prepared for the exercise of power, the aim was to combine this better-educated elite with the more widespread judgement and participation of the people. A more educated population increased the accountability of the political powers, promoting a better convergence of interest between the rulers and the ruled (1977: 23). Education also improved society since it promoted a more effective and prosperous society through a better awareness of individual and social purposes. It also reduced the superstition, credulity, or mistrust typically produced by ignorance, and since each educated individual influenced his fellow citizens by his example, this had an endemic effect of promoting good habits and a virtuous life.

Unlike many other classical political economists, Stuart Mill thought the benefits of education were also observable in economic terms and therefore a part of educational expenditures could be regarded as an investment with an economic rationale underpinning it (1965: 106 and 413-5). Moreover, the benefits tended to be above the contribution to production which he saw as “a natural monopoly in favour of the skilled labourers” (1965: 386). Thus, he was very critical of a situation that favoured educated labourers’ access to well-remunerated tasks while restricting un- or less-educated ones, with attendant issues of nepotism. Hence, he saw the need for broadening access to education, especially in the lower levels of society.

For Mill it was crucial to ensure the satisfactory quantity and quality of the education provided. In terms of quantity, it was important to promote a more efficient use of resources, thus his proposal to concentrate all the educational endowments of a district in one single fund devoted to the maintenance of fewer but larger establishments (1984: 211). In terms of quality he was very critical of private institutions, in particular the endowed ones, which he considered had deviated from their original and relevant purposes (1988, XXVIII: 298). It was this poor quality of education that required governmental intervention. Although it was possible that parents would perform an effective supervision of these endowments, he nevertheless considered that this was only the case if parents were solicitous and qualified judges of the merits and quality of education. However, this was seldom the case, hence Mills’ requirement that the state assume a supervisory role in education, even in the case of the private institutions (1988, XXI: 211). He drew on the criticisms of others, such as Adam Smith’s contention that the establishment of public endowments to education did not promote any good but rather idleness and inefficiency: “I conceive the practice of payment by fixed salaries to be almost fatal to the general usefulness of educational endowments, and quite sufficient in itself to account for the admitted fact of their extensive failure” (1988, XXI: 209). However, while Adam Smith saw this as an argument for less public intervention, Stuart Mill saw this as a reason for more public intervention and to justify the government’s supervision of these endowments.

The state's intervention in education was nevertheless shocking due to several fundamental principles ruling the definition of the limits of interference by the government and the assurance of individual liberty. First, the compulsory character of the intervention or of the funds to provide it was a concern (1965: 937-8). Second, the increase of government power and influence was not welcomed, since it could promote the rise of arbitrary power and the introduction of restriction on private liberties (1965: 939). Third, this increased the occupations and responsibilities of government, a body that was already overcharged with duties (the result being that those duties were ill performed or not performed at all). These problems were also exacerbated by the bad organisation of governments (1965: 940). Fourth, private agency was considered to be more efficient due to the effectiveness of private interests (self-interest). Even if one conceded that the knowledge and intelligence of the government was larger than each individual, it could not be larger than the sum of the whole country (1965: 941-2).

However, education represented an important exception in this respect, with major shortcomings in the application of the principles of the market in terms of the consumer's ability to pay, ability to recognise its value, and sufficient capacity of judgement on the subject. The first Mill seemed to regard as less controversial, due to the widespread acceptance of the principle that if the poor are unable to pay for education, they should not be prevented from access to it (1967, II: 622). The main problems of privately-provided education concerned the second and third aspects, due to the ignorance and selfishness of the parents (1967, II: 623). Contrary to the common rule, the consumer was not the best judge in this case since: "The uncultivated cannot be competent judges of cultivation. Those who most need to be made wiser and better, usually desire it least, and if they desired it, would be incapable of finding the way to it by their own lights" (1965: 947).

The fact that the consumers did not care enough was confirmed by the insufficient private demand for education. Thus, and despite several objections and inconveniences regarding this intervention, the state had an important role in education, especially in supplementing and stimulating private and individual initiative, namely by making it compulsory (1965: 948-9). This did not necessarily mean that the state would provide it or that it would be free, let alone that the state would constitute a monopoly in terms of provision of education (1965: 950; 1991:118). This would be very problematic, especially because it would reduce the diversity in education (and consequently among people, since all would be subject to the same influences), creating a sort of despotism over the mind. Thus, state provision of education, exclusively, should not be the rule, and certainly not in the case of non-elementary levels of education, which would be mostly left up to private demand (1967, II: 627):

> The State owes no more than elementary education to the entire body of those who cannot pay for it. But the superior education which it does not owe to the whole of the poorer population, it owes to the elite of them – to those who have earned the preference by labour, and have shown by the results that they have capacities worth securing for the higher departments of intellectual work, never supplied in due proportion to the demand. […] the principal use of the endowments should be to pay for the higher education of those who, in the course of their elementary instruction, have proved themselves to be of the sort on whom a higher education is worth bestowing, but whose parents are not in a condition to pay the price. (Essays in Economics and Society)

The classical political economists' proposal of public support should not therefore be understood as the establishment of a public system of education. In fact, the annual grant established in 1832 by the state to fund elementary schools was regarded by some as the price to pay for the establishment of a publicly supported network of parish schools (Judges, 1952: 19-20). Even Stuart Mill was very clear about his preference for competition and private supply of education (1967, II: 622). Moreover, and in order to avoid the promotion of idleness and inefficiency among teachers by making their remuneration certain, he considered that "the fees of pupils would always be a part, and should generally be the greatest part, of his remuneration" (1967, II: 624), and he supported the principle of payment by results (1984: 209), even in terms of public institutions.

Alfred Marshall and the Problem of Market Failures

Alfred Marshall was arguably the most prominent economist pre-1950 to devote significant attention to the subject of the economics of education. Marshall considered that education represented a source of important benefits for the individual. In several passages of his *Principles of Economics*, Marshall emphasised the importance of promoting general education. Although technical education was becoming increasingly important at that time, Marshall considered that too much specialisation could potentially reduce the flexibility of many workers to adjust to new tasks or occupations (1961, I: 718). Although the benefits of general education were less visible, they were important in contributing to the development of the individual's intelligence, readiness, and trustworthiness. Education also had an important role in socialising the working classes, inculcating more elevated modes of behaviour (1919: 229). Even more important, the development of mass general education would have a major impact in terms of meritocracy, by promoting a better assessment of the pool of talents through increasing educational opportunities. This avoided the waste of talent that would occur if access to education remained restricted to a minority of the population:

> It is true that there are many kinds of work which can be done as efficiently by an uneducated as by an educated workman: and that the higher branches of education are of little direct use except to employers and foremen and a comparatively small number of artisans. But a good education confers great indirect benefits even on the ordinary workman. It stimulates his mental activity; it fosters in him a habit of wise inquisitiveness; it makes him more intelligent, more ready, more trustworthy in his ordinary work; it raises the tone of his life in working hours and out of working hours; it is thus an important means towards the production of material wealth; at the same time that, regarded as an end in itself, it is inferior to none of those which the production of material wealth can be made to subserve. (1916: 211*)*

In Alfred Marshall's writings there are several references to the economic role of education and training, notably their contribution to the industrial efficiency of workers (see 1919: 377). In *Industry and Trade* (1919), he pointed out several times the role of education in the economic progress of several of the leading industrial powers. For Marshall, modern times were characterised by increasing levels of education and standardised knowledge, meaning that education was no longer a privilege of an elite. This general moral and mental progress of the masses prepared them for more complex technical activities and made them more productive.

When it came to the analysis of the costs associated with the supply of labour, he mentioned at the forefront those costs associated with rearing, general, and specialised education (1961, I: 156). The costs to acquire specialised knowledge and ability were considered as a type of investment, more precisely a long term one (1961, I: 377). In fact, estimates of incomes directly governed the supply of specific trades, though there was an element of rent in wages (1961, I: 421), often to compensate extraordinary natural abilities that were not “the result of investment of human effort in an agent of production for the purpose of increasing its efficiency” (1961, I: 577). This posed the difficult question of separating what part of the remuneration was due to “capital invested in special training,” to “rare natural gifts,” and to matters of chance and opportunity. However, part of the exceptional success of some individuals had to be considered in the wider long-term context, and vis-à-vis the failure of others, as a compensation for a risky investment decision or a quasi-rent due to peculiar and exceptional capacities. Hence, Marshall hesitated in likening the acquisition of education to a productive investment.

The investment in education nevertheless faced important obstacles, particularly due to its long-term nature. One of the most important ones was the potential lack of foresight of the parents. Although people were normally able to ascertain the present value of future benefits (1961, I: 120), Alfred Marshall doubted the capacity of the lower classes to anticipate the future benefits that would accrue to their children through better education:

> Most parents are willing enough to do for their children what their own parents did for them; and perhaps even to go a little beyond it if they find themselves among neighbors who happen to have a rather higher standard. But to do more than this requires, in addition to the moral qualities of unselfishness and a warmth of affection that are perhaps not rare, a certain habit of mind which is as yet not very common. It requires the habit of distinctly realizing the future, of regarding a distant event as of nearly the same importance as if it were close at hand (discounting the future at a low rate of interest); this habit is at once a chief product and a chief cause of civilization, and is seldom fully developed except among the middle and upper classes of the more cultivated nations. (1916: 216-7)

In this context, expenditure in education could correspond to a choice between the parents’ and the children’s interests (1961, I: 217). Marshall thought that amongst the lower classes it was the parents’ interest that would be privileged. This was related to the fact that education was a peculiar type of investment in which the costs were largely dissociated from the benefits (1961, I: 560):

> [H]e who bears the expenses of production of material goods, receives the price that is paid for them. […] But the investment of capital in the rearing and early training of the workers of England is limited by the resources of parents in various grades of society, by their power of forecasting the future, and by their willingness to sacrifice themselves for the sake of their children. […] This evil is indeed of comparatively small importance with regard to the higher industrial grades. […] But in the lower ranks of society this evil is very great [… and] this evil is cumulative. (1916: 561-2)

Even if the parents were willing to support their children’s education through borrowing, they were most certainly prevented from doing so due to their poorer financial condition (in modern terms one would call this “liquidity-constrained”). These combined forces promote a situation in which the lower levels would persist at a lower level of education, from generation to generation, unless society, particularly through government, would take a more active role in funding those activities.[2]

The problems facing this peculiar type of expenditure were also due to the motivations underlying it. Marshall considered that the intellectual, moral, and artistic faculties on which industrial efficiency depended were acquired not only as an instrument/investment, but also due to their intrinsic (consumption) benefits. The acquisition of education was therefore the product of a combination of various investment and consumption motivations, many of which were not linked to any economic purpose (1961, I: 247). This was enhanced by the difficulty in foreseeing the circumstances by which earnings were determined.

Milton Friedman and the Revival of the Market in Educational Policy

This stance, emphasising the peculiar nature of higher education and largely justifying the role of government, would persist during much of the twentieth century. The balance shifted towards a greater emphasis on the role of the government in higher education, and more scepticism towards the imperfectability of markets in this respect as the government's role in education in general expanded. Due to this emphasis on the potential failures of a market in higher education, economics as a discipline started the twentieth century less inclined to apply a market framework to higher education. However, bearing in mind the centrality of the market concept in economic analysis and economics' reliance on individual economic rationality, the resistance to apply this framework to higher education inevitably produced some tensions. These tensions would be exacerbated in the last quarter of the twentieth century with the so-called crisis of the welfare state and the ascent of economic laissez-faire.

The person who has arguably been the main contributor in again placing markets at the forefront of the educational debate was Milton Friedman. Through the effective rhetoric of his *Capitalism and Freedom* (1962), he launched the contemporary debate on the role of markets and governments in (higher) education. Interestingly, Friedman does this by recovering some of the intellectual tradition of the Founding Fathers' economic analyses of higher education. Now that the context has changed significantly and the role of government in education is taken for granted by most people, Friedman tries again to place the burden of proof on the side of government in order to limit its role in higher education:

> Formal schooling is today paid for and almost entirely administered by government bodies. […] This situation has developed gradually and is now taken so much for granted that little explicit attention is any longer directed to the reasons for the special treatment of schooling. […] The result has been an indiscriminate extension of governmental responsibility. (1962: 85)

Friedman starts by acknowledging the massive modern role of government in education, the result of an expansion that took place mostly in the late nineteenth

[2] Accordingly, Marshall praised the positive effects of the education and factory acts, which removed a great evil from factories by restraining the use of child labour (198). This made a lot of economic sense because on the one hand, there was decreasing demand for the kind of tasks previously performed by child labour (nowadays done by machines); on the other hand, improving education methods would strengthen the children's capacities, making them better workers in the future (1919: 351-2).

and early twentieth century. According to Friedman, the contemporary role of the government in education was mostly taken for granted and led to what he calls a substantive nationalisation of the educational sector. However, he wanted to underline that this was not always the case, especially in countries such as the US and the UK that had previously resisted it. In the case of the US, there were three main reasons for expansion. First, education was mostly considered a technical monopoly. Second, it aimed at creating a core of common values that was particularly relevant due to the large and diverse inflows of migrant population. Finally, there was the lack of an efficient technical administration that could handle subsidising individuals directly, instead of through institutional funding.

Hence, Friedman tries to rationalise this governmental presence, which he does on the basis of education externalities and a paternalistic concern for children and other irresponsible individuals. According to Friedman, the role of government was mostly justified as an instrument of promoting a common set of values and basic citizenship through general and compulsory education. At the financial level, those that could afford it should contribute significantly to the education of their children. Moreover, government's role would be largely unjustified in the types of education, more vocationally-oriented, that clearly enhanced the individual's productivity. In this case the individual would reap a major benefit through enhanced lifetime income and therefore should be called on to bear most of the costs. Altogether, Friedman's reflections point to a greatly reduced role for the government in education.

The reduction of the role of the government was even more critical in his analysis of higher education. In this case, Friedman believed that the case for nationalisation was even weaker. Moreover, it introduced some major distortions in the functioning of the higher education system:

> The subsidization of institutions rather than of people has led to an indiscriminate subsidization of all activities appropriate for such institutions, rather than of the activities appropriate for the state to subsidize. (1962: 100)

He therefore proposes, based on some externalities and arguments about national productivity, that most funding should be directed to the students themselves in a sort of voucher mechanism. The funding of this system should be mostly at the state and not at the federal level. Friedman believed that the shift from institutional to individual funding would enhance the competition between higher education institutions and encourage better use of resources. Moreover, it would promote a larger diversity of types of higher education, which he largely associates with private provision.

These arguments have been persistently repeated in recent decades to justify the growing role of market competition and privatisation in higher education. Although hardly anyone questions that the government has a role in education, some argue there is a real possibility that government interference will limit incentives for quality, efficiency, differentiation, and innovation. Thus, while the market may fail, there is a possibility that government may fail as well (Wolf, 1993). The effects, in terms of equity and efficiency, of introducing markets and competition in the higher education sector will therefore always result in trade-offs. Faced with this challenge, many governments have been experimenting with, and in some cases painfully learning from, market mechanisms in higher education.

Markets and Higher Education – The Contemporary Debate

The reflections of economics' founding fathers have left an intellectual inheritance visibly imprinted in contemporary debates on markets in higher education. The debate initiated with Adam Smith's emphasis on the advantages of applying market forces, namely private property and competition, to higher education and his scepticism about the potential role of government. At this time, the role of government in education was relatively small. However, the debate continued, and with John Stuart Mill the balance between market and government in higher education started to change, since he underlined the peculiarities of education and the risks of market failures. This became even more visible due to Alfred Marshall, and especially his concern with the role that educational training would play in national wealth and therefore with the costs associated with underinvestment, either due to the lack of foresight or credit-constraints. Greater reliance on the role of the government in higher education paralleled the expansion of the government's role in education that marked most of the twentieth century.

The resistance to applying the market framework to higher education would inevitably produce some discomfort among many economists. These tensions would be exacerbated in the last quarter of the twentieth century with the so-called crisis of the welfare state and the ascent of economic laissez-faire. The endorsement of a market approach to higher education, epitomised by Milton Friedman, would be increasingly voiced during the last three decades of the past century. In contrast to nineteenth century authors, contemporary views did not question that the government had an important role to play in higher education. However, they would argue that government intervention had gone too far and hindered incentives for quality, efficiency, differentiation, and innovation. Part of this problem could be redressed by a greater emphasis on market mechanisms in higher education.

Diagnosing Market Failures

Contemporary economists tend to regard a market as a powerful mechanism of social choice that, through rational utility-maximizing behaviour of individuals, as if by an invisible hand, will distribute goods in such a way that no one could be better-off without making anyone else worse-off. However, they are also aware that markets do not always produce the optimal outcome from a society's point of view. Some markets can persistently produce too much or too little of goods and services, challenging the self-regulating capacity that economists usually associate with a market mechanism, i.e., the capacity to adjust to situations of excessive or insufficient supply (or demand). This is a case of *market failures*.

The development of public economics has led to greater attention to the issue of market failures, the main types that have been identified being those of public goods, the existence of externalities (spillovers), information asymmetry, and monopoly powers. As regards the first, mainstream economists have expressed the view that higher education cannot be properly considered a public good according to the conditions defined by public economics — non-rivalry and non-exclusion of consumption. The former means that the quantity consumed by one individual does not reduce the amount available for the remaining ones. The latter condition means that there are no effective mechanisms to prevent individuals from enjoying that good. Goods that satisfy this condition will be unattractive for private providers. Hence, those economists advocate calling higher education a merit good rather than a public good. By this they mean that governments should promote private consumption of this type of good because of its individual and social benefits, but need not be concerned with its public provision.

With the exception of the public goods issue, all of the other examples of externality are considered as relevant for the case of higher education (Johnes, 1993). First, self-interested individual decision-making does not take into account the fact that investment in higher education will affect the functioning and wellbeing of others in a positive way. The same holds for firms investing in research (or R&D). Both examples indicate the risk, from society's point of view, of an underinvestment in higher education and research. Secondly, one faces important information-related problems in the higher education sector when it comes to assessing the outcome (including the quality) of the efforts of academics and students. Imperfect information also shows up in the student loans market, where information asymmetries exist between students taking up loans, on the one hand, and banks (or government agencies) that supply loans, on the other. Thirdly, while natural monopolies may not exist in the case of higher education, market power may be concentrated in a selected number of providers, causing them to behave like a cartel and to erect barriers to entry for potential new providers.

These examples of market failures have provided the traditional economic rationale for government intervention (Wolf, 1993). Government intervention takes the shape of public production, the provision of government subsidies, and the issuing of laws and regulations. Government intervention may also work to introduce sufficient incentives to ensure that providers reveal the quality of their services and students express clearly their demands and capacities. Information is a vital ingredient for any market. Government regulatory bodies, for instance, are charged with overseeing markets, preventing collusion practices or monopolies, and promoting a market structure without unjustified barriers for potential new providers entering the market.

Public production of higher education takes place when public organisations provide teaching and research on behalf of the government. When production partly takes place in private institutions, government (or government agencies) will often 'buy' education and research on behalf of society (i.e., the students, etc.). This is the case when the costs of higher education and research are partly met through government subsidies. In the latter case, the remainder of the costs is met by private contributions, such as tuition fees.[3]

When it comes to the higher education market, one of the major goals of government intervention is to provide equal opportunities to all qualified individuals who wish to participate in a higher education course. Equity is concerned with the distribution of educational outcomes, e.g., whether poorer people end up with fewer qualifications and, as a result, with lower incomes (Barr, 2001). In order to also protect the interests of future generations, it is in the interest of society that no talents are wasted and that people wishing to develop their talents are not restricted by factors such as parental income (see Teixeira et al., 2005). Access policies consist of student subsidies, grants, and loans, but also include regulation to prevent discrimination and policies to raise the aspiration levels of those who traditionally do not consider investing in higher education.

The Peculiarities of Markets in Higher Education

Assessing the changes brought on by the strengthening of market forces in higher education is a complex and often highly controversial task. Several have voiced concerns over these developments, maintaining that they have contributed to

[3] The performance of a market cannot be assessed only on the basis of the efficiency criterion, since equity constitutes another important reason for government intervention.

organisational fragmentation, increased administrative bureaucracy, or even led to a crisis of identity. Many critics have even attacked the appropriateness of applying economic theory to the reform of higher education around the world. They have questioned both its relevance as well as its possibly perverse effects on higher education. Others have counter-argued that there have been significant achievements in terms of cost reductions, as well as increases in teaching and research output quantity and quality, thus fulfilling Adam Smith's dictum.

In any case, it seems clear that important questions remain about applying market-based policies to higher education. One of the issues requiring discussion is that of government regulation and its role in a market. Individuals often speak easily about "free" markets as those exchanges between buyers and sellers which occur without government intervention. This seems to imply that efficient market exchange requires the elimination of all government regulation. The supposed social benefits of markets cannot in fact be realized without the basic institutional framework of laws that provide the boundaries for market transactions. Government regulations set the rules for the effective operation of markets, defining property rights and monitoring as well as enforcing contracts.

The critical issue for higher education therefore is not the dispute between advocates of complete deregulation and advocates of a protected status for universities, but rather the debate regarding what type and degree of government regulations will maximize the social benefits of higher education systems increasingly subject to market forces. Governments in many Western countries have traditionally relied upon systems of rather centralized control to coordinate their higher education systems. The adoption of market-based policies in many countries represents the application of a less direct form of regulation. The challenge confronting those experimenting with market-based policies in higher education is therefore to identify the institutional framework of rules and incentives that produces welfare-maximizing competition among (mainly) publicly subsidised, but increasingly institutionally autonomous, academic institutions. Underpinning this is the long-standing belief that competition, even if simulated, can produce an improved outcome in terms of the quality and quantity of education supplied.

Another point of clarification is the definition of a "market" itself. The economic concept of a market assumes the free exchange of comparable goods and services based upon price. The concept of "comparable goods and services" points out that there is hardly a single market in higher education but rather many possible markets. Therefore, effectively assessing the design and impact of market-based reforms requires analysts to be precise about exactly which market they are evaluating. Most authors tend to focus on the market for first level academic degree programmes, which can be further subdivided into "bands," supposedly representing different levels of academic quality (as in the US). If that is the case, it can be argued that they represent differentiated products with different markets whose producers and consumers do not directly compete with one another. Similarly, the development of distance learning programmes arguably represents a further differentiation in the higher education market. Some suggest that this latter type of market differentiation in terms of academic quality and modes of instruction may not be in the public interest, while many economists might argue that this differentiation of product quality and forms of delivery is a good example of the way in which market forms of coordination more efficiently serve the public interest (Dill and Teixeira, 2000).

The nature of the markets for higher education, however, is even more complex than these examples of the differentiated first level degree programme market might suggest. Higher education institutions not only produce first level degree programmes, but also research doctoral programmes, professional master's programmes, and in-service training programmes. In addition, universities produce knowledge related goods and services including professional consulting, research, and scholarship. Each of these goods and services potentially represents a different market. These respective markets also vary in terms of their degree of competition and government regulation. While some higher education goods and services produced by universities continue to be organized as state monopolies (e.g., research funding), other goods or services created by the same institutions are produced in competitive markets (e.g., consulting or in-service training).[4]

Some would also argue that the peculiar nature of higher education markets limits the relevance of economic assumptions about "perfect competition." They suggest that because university prices do not reflect true costs (due to government subsidies, private endowments, or cross-subsidies), the traditional economic framework of "market failures" may be inappropriate for assessing the performance of higher education. The absence of full-cost pricing, however, like the presence of government regulation, does not lessen the relevance of economic theory for evaluating whether existing mechanisms of coordination in higher education maximize social welfare. Many markets are also characterised by government subsidies and explicit government regulations and economic analyses of the relative efficiency of these markets nonetheless continue to be useful in shaping government policy.

One of the issues that has fuelled controversy about the increasing role of markets in higher education has been privatisation and its effects. The growing *privateness* of the higher education sector has become a very important issue in many systems (cf. Altbach, 1999). The argument has been that the private sector, armed with greater administrative flexibility and driven by financial incentives, is expected to be more responsive to both niche and new markets. Hence, it would provide a supply that would be better balanced from a disciplinary perspective, could reach a wider geographical area than traditional institutions, and could turn out graduates who were better suited to labor-market needs. There is a widespread conviction that the 'market' will be more effective than state regulation in promoting diversity of higher education systems, in terms of both institutional types and programs and activities. Geiger (1996), considering that at times when resources are scarce the fight for survival takes place under market co-ordination, argued that institutions would diversify in search of market niches and new clienteles.

More recently, some authors have questioned this conviction. Meek et al. (1996) contended that institutional responses to increased market competition could lead institutions to diversify in an attempt to capture a specific market niche, but also to imitate the activities of their successful competitors. Levy (1999) suggested that under certain circumstances private higher education does not bring organizational diversity. Other research has analyzed the impact of private higher education on the diversity of the system in a set of countries where a late process of privatization played a role in the *massification* process (Teixeira and Amaral, 2002, with preliminary conclusions indicating that most private institutions do not encourage innovation. They are more likely either to duplicate what public institutions are doing or to expand low-cost courses in areas with strong demand. To the public sector is left the task of catering to the demand for costlier and riskier activities. This research also suggests that governments can count on the private sector to expand the

[4] One of the markets in which significant differences have emerged is that of academic labour. Whereas some countries have introduced significant flexibility in these markets, in many others there have been very limited changes or hardly any at all.

system, but that they should not rely on it to increase diversity. Hence, it becomes apparent that in several contexts, and differently from Smith's expectations, private HEIs seem less averse to experimentation and innovation.

A related argument is that higher education markets differ from traditional markets in that they are publicly funded "quasi-markets," introduced into existing state systems of higher education in order to increase efficiency and responsiveness. These internal or quasi-markets create competition among monopoly state providers by decentralising demand and supply (Le Grand and Bartlett, 1993). The concept of quasi-markets is a useful means of categorising some of the more popular reforms for introducing market forces into existing publicly financed systems of higher education. But this conception does not describe all of the higher education markets noted above, some of which—such as the global academic labour market or the market for academic consulting—are better understood as competitive rather than "quasi-markets".[5]

Some Mixed Feelings about the Growing Role of Markets in HE Policy

The adoption of market forces as a steering mechanism for higher education is unlikely to engender the expected efficiency benefits for society unless a more effective regulatory framework can be developed to address the problem of imperfect information on the quality of teaching and student learning. While improved consumer information on academic quality would be an obvious regulatory recommendation in such circumstances, some form of "enforced self-regulation" may be more effective for higher education. This would entail government incentives and sanctions designed to reform and strengthen institutional and professional mechanisms for assuring academic quality, a concern clearly expressed in the mid-nineteenth century by Stuart Mill when he called for stronger government regulation of private HEIs. However, this does not mean that quality problems are exclusive to private or market dominated systems. The high variation in retention and dropout rates among many publicly dominated and highly regulated higher education systems in Europe vividly illustrates this point.

Many individuals argue that the application of market forces to higher education is inappropriate because higher education is a "public good". Moreover, in many (European) countries this argument is used to condemn both private provision of higher education and the participation of students and their families in the direct costs of higher education. Common usage of this term, however, often obscures the contribution that an economic perspective can make to higher education policy. Clearly most of the goods and services provided by higher education do not meet the criterion of a pure public good.

The issue is not whether markets will finance and produce higher education for those who wish to purchase it, but whether the amount and types of goods and services thus produced will be efficient for society. In other words, and as Alfred Marshall pointed out, since universities provide non-priced social benefits in addition to the private benefits for which individuals or organisations will pay, it is in the interest of

[5] In a *quasi-market* situation, decisions about supply and demand are co-ordinated using 'market-like' mechanisms in which only some of the main elements of a market are introduced, often gradually. This is done in an attempt to stimulate and simulate market behaviour among (mostly) public institutions, as in the creation of internal markets. Government regulation and financing will still remain important mechanisms of coordination, but other aspects of the market, such as competition, user charges, individual responsibilities, and freedom of choice, are introduced into the system.

the state to subsidise higher education in order to maximise social welfare. This of course is a rationale based upon the market failure of positive externalities, and thus considers higher education a merit rather than a public good.

The rising costs of higher education systems have contributed to experiments in funding to increase competition between higher education institutions. This debate has often been associated with the idea of promoting wider choice, the possibility of market type accountability, and the reduction of governments' interference in higher education (Jongbloed, 2004). The system of free (or almost free) higher education based on public support has been criticised on the grounds of efficiency and equity. It is argued that the student is the main beneficiary of the degree, and therefore he/she should bear a larger part of the costs of providing it. Moreover, from the late sixties onwards, there has been significant controversy on the possible regressive effects of low or nonexistent tuition fees. Direct charging is seen as a way of affecting student decisions (i.e., affecting allocation), as it makes clear to students that higher education leads to a private benefit.

Accordingly, many countries have moved towards some direct form of contribution from students and their families, although the amount still varies significantly across countries. *Cost sharing* is the term often used to describe different forms of direct charging for education services (Johnstone, 1986). This has led to the introduction and/or increases in the level of tuition fees, which has become a contentious issue in many systems of higher education (see Teixeira et al., 2005). However, direct charging is also a way of raising revenue. This increased financial participation of students and their families has also been associated with more complex and, in many cases, more demanding forms of student support (notably the trend of replacing grants with loans).

These changes in funding mechanisms have raised equity concerns. Indeed, government intervention in the market for higher education is often justified on the grounds of redistribution or "equity". Those advocating a supply-driven system base their position on arguments about students being immature consumers, the absence of sufficient and reliable information about services on offer, the increased effectiveness of policy and co-ordination of the higher education system, and the improvements in performance in terms of equity in the provision of higher education. Nowadays, the focus is not so much on concerns about the limitations of the parents as consumers of higher education, as it was in the time of Stuart Mill or Alfred Marshall, but more on the potential behaviour of students, though the fears are analogous. Both fuel the argument that pro-market policies might result in unfulfilled expectations of improved quality alongside serious detrimental effects, pointing out that these policies would increase polarisation in higher education, with growing inequality between institutions and between socio-economic and ethnic groups.

Identifying the appropriate balance between private and social benefits becomes more important as countries have persistently expanded their university systems, because this expansion dramatically increases public expenditures for higher education. Therefore, if the relationship between the public's share of university costs and predicted social benefits is difficult to justify in elite systems, questions as to the efficiency of such expenditures only rise with *massification*. This reality helps to understand the politically divisive debate about cost-sharing and tuition fees now occurring in most mature economies (Teixeira et al., 2005).

In many countries, governments have asked institutions to compete for students, research funds, and funds tied to specific goals. This competitive environment has triggered important developments within higher education institutions, especially since these developments there have coincided in many countries with a strengthening of institutional autonomy. The latter was supposed to provide institutions with an enhanced capacity to face financial stringencies and new demands while strengthening organisational innovations. This is reflected, among other things, in the staffing and human resources policies of institutions, the outsourcing of several activities, and the creation of subsidiary businesses and partnerships with private companies (Williams, 1991). The goal was to reduce inefficiencies, to generate additional revenues, and to create innovative organisational models. Some of these initiatives have led to new institutional dynamics, with significant impact on management practices (Amaral et al., 2003), internal resource allocation, and evaluation procedures. Since most of these changes took place in a context of decreasing resources, this was necessarily a difficult process, stimulating some internal tensions.

However, one should not think that government intervention is the therapy for all these problems and, moreover, that government participation in higher education is flawless. In addition to market failure, incidents of "government failure," in which existing state policies produce inefficient and/or inequitable outcomes, can be identified (Wolf, 1993). Although government intervention is often justified on equity grounds, this intervention can and has in effect created equity distortions. The regressive distributional nature of government subsidies in many countries is well documented and has probably persisted, despite the expansion of higher education and the growing participation of students and their families. This is arguably the case in countries where the financial participation of students and their families is minimal (e.g., France) or small (for instance, the UK, Portugal, and the Netherlands). And yet, these subsidies are unavoidable if one wants to change the socio-economic composition of the undergraduate student body and to bring it closer to that of the overall population. They are a clear necessity on equity grounds, especially due to the persistent wage premium of university-educated workers, even in the context of rapid massive expansion of higher education systems.[6]

In several cases, the increasing financial participation of families and students has made more viable, financially, an expansion of the system from one that was previously elite and restricted, and in which access was otherwise significantly constrained. In particular, the increasing competition for public funds has shown that higher education is not a strong contender, especially against expenditures such as health services and social security, and emerging social trends will further weaken higher education's bargaining capacity. Although important reasons remain for a major contribution of public resources, and indeed public funding continues to provide the overwhelming portion of higher education funding in most countries analysed, it is hard to devise alternatives to a diversification of the funding structure. This will certainly be harder to accomplish in European systems, in which private universities are scarce and private donors keep a low profile, especially when compared with their North American counterparts. The risks are significant that

[6] Both the issue of regressive welfare policies and private returns could hardly have been anticipated by economics' founding fathers. On the one hand, the size and extension of governmental social policies was far more limited than it has become since WWII. On the other hand, the level of qualification required by the technological evolution of the productive system has largely surpassed any expectations they may have had. For instance, Adam Smith believed that the process of division of labour would lead to a simplification of productive tasks that would be less demanding in terms of qualification. In contrast, Alfred Marshall feared that the lag of the British workforce in terms of qualifications would hinder Britain's industrial and economic prospects.

(public) higher education will become trapped in a high participation-low funding per capita situation.

Changes in the funding structure in many countries, and the introduction of more pro-market behaviour, can also help correct some distortions that economists expect to find in systems dominated by public provision. Dissociation between costs and benefits distorts the information being disseminated by the labour markets in terms of needs of graduates, and often tends to lead to an oversupply, at least of certain types of programmes. Oddly enough, most observers seem far more eager to criticise the excesses of supply led by market forces—and especially private universities, as in the case of certain popular programmes with low costs (Teixeira and Amaral, 2001)—than those promoted by publicly-dominated provision, and in fact there are several examples illustrating both cases. Moreover, public supply seems to be as well permeable to social pressures, although the lower cost impedes one of the main checks to prevent oversupply of certain type of graduates.

The introduction of market elements in several of those systems has also contributed to a significant reduction in the cost per student, since the growth of overall funding has not followed the expansion in terms of enrolments. However, in other systems market competition has led to the so-called arms race and to rising costs and tuition (there is a lively debate on this issue in the US). Moreover, those reductions in cost do not necessarily mean an improvement in terms of efficiency. Overall, one can say that there are some indications that this pressure on public universities for more market-like behaviour had a positive impact in terms of the cost per graduate and in scientific productivity, though the concerns raised about decreases in teaching standards and in the quality and depth of research should be investigated.

The growing role of market elements in higher education has also made some important contributions to the ways universities operate. It has definitely made them more aware of their organizational needs and shortcomings. Although one can easily give examples of the naïve and simplistic use of business tools, the growing familiarity of universities with managerial instruments and practices has shown that, bearing in mind their specificity, they can make a valuable contribution to institutional development. There have been notable improvements in the level of knowledge about the institution, its positioning in the system, and the needs and demands of students and employers. There is also evidence that many universities have become far more flexible, resilient, and responsive than some observers have acknowledged. Certainly, these changes were not painless and governments need to be constantly vigilant about achieving the right balance between economic and non-economic motives of higher education.

Final Remarks

Political economists, and later economists, were drawn to apply their economic principles to their primary working environment—academia. However, they usually felt that the peculiar nature of higher education made the task of applying economic tools and theories to that realm especially complex. Despite these misgivings, economists have engaged in a debate about the economic analysis of education, notably in recent decades; this engagement, among other factors, has contributed to the rising visibility of markets in higher education policy debates.

The reflections on higher education of the founding fathers of economics as a discipline have left an intellectual inheritance that is strikingly present in the contemporary debates on markets in higher education. That legacy can probably be summed up in three phrases: healthy competition, careful paternalism, and market failures. Adam Smith imprinted in the debate the emphasis on the positive contribution that competition and private supply could have in the effectiveness and responsiveness of higher education institutions, thus arguing in favour of the significant direct financial participation of students' families in the costs of the instruction their offspring received.

This initial pro-market stance has been progressively tempered. John Stuart Mill, despite acknowledging the virtues of competition and the dangers of *statism*, opened the door to a greater public intervention, notably due to the ill-judgment of educational consumers, especially those from lower socio-economic backgrounds and lower formal qualifications. Alfred Marshall further developed the arguments about the market failure that might occur in higher education due to the divergence between social and private benefits and to consumers' lack of foresight. Altogether, this has contributed to move the burden of proof, in the regulation of the market, from the government to the market.

Economics' founding fathers thus left an inheritance of some ambivalence in the way economists approach higher education. If, on the one hand, they support the view that market mechanisms will contribute to a higher level of efficiency, many have also forcefully argued on the other hand that the peculiarities of higher education as a business and the other missions that (should) govern the system make it difficult, or even inappropriate, to promote market regulation of higher education. Although these views have somehow been redressed through the pro-market efforts of people such as Friedman, the sceptical endorsement of some market regulation is indeed largely present in the moves towards the market that have characterised higher education policies in recent years. Despite some signs of strengthening market trends in recent decades, one can confidently say that in most Western countries we are still very far from having a higher education market.

First and foremost, there is the issue of prices. Since economists regard a market as a means of organising the exchange of goods and services on the basis of a price mechanism that coordinates the supply and demand, the fact that prices are clearly dissociated from costs for a large majority of students (those enrolled in public institutions) undermines the notion of a real market in higher education in most Western countries, especially in Europe. The very limited direct contribution of students and their families to the costs of their education in the case of public institutions is believed by most economists to distort significantly the determinants of the demand for education. Moreover, the fact that tuition fees paid in public institutions are often fixed or severely limited by the state is a clear statement of the rejection of the price mechanism as major instrument of regulating the demand of higher education.

Second, there is the issue of contestability—the capacity of new providers to enter the market, create new and diverse approaches, and place useful competitive pressures on the existing institutional producers (Marginson, 1988). Although in some Western systems the private sectors of higher education are reasonably large, the private institutions' autonomy is not necessarily greater than that of public institutions. Moreover, the fact that in many countries public institutions have had almost automatic funding for each additional academic program, with limited control from public authorities, suggests that the supply of higher education was clearly dissociated from market regulation mechanisms. Public HEIs are not really exposed to these constraints, at least not in the way a firm normally faces a market for any other type of commodity and where a wrong decision will decrease profits, cause a fall in the value of shares, and perhaps even lead to bankruptcy.

Third, there is the issue of information insufficiencies. These are normally labelled as a market failure, and seem to be particularly relevant in the case of higher education. Limited information about the quality of institutions and/or programs impairs the capacity of customers (e.g., students and their families) to choose what they believe is the most suitable institution for their needs (see Dill, 1997). In particular, a comprehensive measure of the value added by each specific academic qualification and programme is lacking. Although there have been some advances in terms of evaluation institutions and publishing evaluation reports, the wider public seems to be largely unaware of this mechanism, let alone the information produced.

The greatest contribution that economics' founding fathers have made in these debates is the caveat that if economics has something meaningful to say about higher education, it also has its limitations. They pointed out that we are better off taking a less dogmatic and ideological approach to the role of markets in higher education. For them, markets were neither a policy blueprint for higher education, nor the personification of evil. Rather, the market system was an analytical framework that could produce some benefits but also some imbalances in the system. Nowadays, as markets are rapidly coming to be regarded as an important and viable instrument for steering higher education systems, especially in order to complement the function of the government, we benefit by taking these views more seriously than ever.

References

Amaral, A., V. L. Meek, and I. Larsen (eds.). (2003). *The Higher Education Managerial Revolution?* Dordrecht: Kluwer Academic Publishers.

Amaral, A., and P. Teixeira. (2000). "The rise and fall of the private sector in Portuguese higher education?" *Higher Education Policy* 13(3): 245-266.

Barr, N. (1998). *The Economics of the Welfare State* (3rd ed.). Oxford: Oxford University Press.

Dill, D. D. (2001). "The 'Marketization' of Higher Education: Changes in Academic Competition and Implications for University Autonomy and Accountability." *Higher Education Policy* 14(1): 21-35.

Dill, D. D. (1997). "Higher Education Markets and Public Policy." *Higher Education Policy* 10(3/4): 167-185.

Dill, D. D. (2003). "Allowing the Market to Rule: The Case of the United States." *Higher Education Quarterly* 57(2): 136-157.

Dill, D. D., and P. Teixeira. (2000). "Program Diversity in Higher Education: An Economic Perspective." *Higher Education Policy* 13(2): 99-117.

Friedman, M. (1962). *Capitalism and Freedom*. Chicago: University of Chicago Press.

Johnes, G. (1993). *The Economics of Education*. London: MacMillan Press.

Johnstone, D.B. (1986). *Sharing Costs of Higher Education: Student Financial Assistance in the United Kingdom, the Federal Republic of Germany, France, Sweden, and the United States.* New York: College Entrance Examination Board.

Jongbloed, B. (2003). “Marketisation in higher education, Clark’s triangle and the essential ingredients of markets.” *Higher Education Quarterly* 57(2): 110-135.

Jongbloed, B. (2004). “Tuition Fees in Europe and Australia: theory, trends, and policies.” In J. C. Smart (ed.), *Higher Education: Handbook of Theory and Research*, Vol. 19. Dordrecht: Kluwer Academic Publishers.

Le Grand, J., and W. Bartlett. (1993). *Quasi-Markets and Social Policy*. London: Macmillan Press.

Marshall, A. (1961). *Principles of Economics* (9th Ed. Variorum, 2 vols.), with annotations by C. W. Guillebaud. London: MacMillan.

---. (1919). *Industry and Trade*. London: MacMillan.

Mill, J. S. (1965). *Principles of Political Economy With Some Applications to Social Philosophy* (Collected Works, vols. II and III). Toronto: University of Toronto Press and Routledge.

---. (1967). *Essays in Economics and Society,* vols. I and II (Collected Works, vols. IV-V). Toronto: University of Toronto Press and Routledge.

---. (1977). *Essays on Politics and Society* vols. I and II (Collected Works, vols. XVIII-XIX). Toronto: University of Toronto Press and Routledge.

---. (1984). *Essays on Equality, Law and Education* (Collected Works, vol. XXI). Toronto: University of Toronto Press and Routledge.

---. (1991). *On Liberty and Other Essays*. Oxford: Oxford University Press.

Neave, G., and F. Van Vught (eds.). (1994). *Government and Higher Education Relationships Across Three Continents: The Winds of Change*. London: Pergamon Press.

Rothschild, M., and L.J. White. (1995). “The analytics of pricing in higher education and other services in which customers are inputs.” *Journal of Political Economy* 103: 573-586.

Smith, A. (1776 [1976]). *An Inquiry into the Causes of the Wealth of Nations*, Glasgow Edition of the Works and Correspondence of Adam Smith. Oxford: Clarendon Press.

---. (1978). *Lectures on Jurisprudence.* Oxford: Clarendon Press.

Teixeira, P. (2006). “Dr. Smith and the Moderns - Adam Smith and the Development of Human Capital Theory.” *The Adam Smith Review* 3.

Teixeira, P. (ed.). (2003). Special Issue on Market Mechanisms in Higher Education, *Higher Education Quarterly* 57(2).

Teixeira, P., and A. Amaral. (2001). “Private Higher Education and Diversity: An Exploratory Survey.” *Higher Education Quarterly* 55(4): 359-395.

Teixeira, P., D. Dill, B. Jongbloed, and A. Amaral (eds.). (2004a). *Markets in Higher Education: Reality or Rhetoric?* Dordrecht: Kluwer Academic Publishers.

Teixeira, P., M. J. Rosa, and A. Amaral. (2004b). “Is there a Market in Portuguese Higher Education?” In Teixeira et al. (eds.), *Markets in Higher Education: Reality or Rhetoric?* Dordrecht: Kluwer Academic Publishers.

Teixeira, P., B. Jonstone, M. J. Rosa, and H. Vossensteyn. (2005). *A Fairer Deal? Cost-sharing and Accessibility in Western Higher Education*. Berlin: Kluwer-Springer.

Williams, G. (1991). “The Many Faces of Privatisation.” *Higher Education Management* 8: 39-56.

Wolf, C., Jr. (1993). *Markets or Governments: Choosing between Imperfect Alternatives*. Cambridge, MA: MIT Press.