The Public, the Private and the Good in Higher Education and Research: An Introduction

JÜRGEN ENDERS AND BEN JONGBLOED

The public/private divide is a fundamental distinction in higher education studies, as it is one of the primary coordinates in the analysis of institutions and national systems and their political economy. The central theme of this collection of essays, which builds on contributions to the 17th annual conference of the Consortium of Higher Education Researchers (CHER), reflects the changing relationships and boundaries between the public and private spheres in higher education and research; in other words, the public-private dynamics in this sector. We currently observe that traditional boundaries and understandings of the public and private spheres in higher education have become blurred, in a similar way to other sectors of society that were previously under tight public control. This can be seen, among other things, in the delegation of public policy to semi-public organisations, non-governmental, arm's-length agencies, independent regulatory bodies or public-private policy networks. It also relates to a process by which elements of the fabric of higher education are withdrawn from the public sphere, with universities setting up private companies, outsourcing research, teaching or support services, and the emergence of public-private partnerships or new private organisations. But just the opposite is also observed: the introduction of elements of the private sphere into the public realm of higher education. Examples involve the state-induced enforcement of competition, the increasing role of private funding, and the rise of new public management in higher education organisations. Here the term 'private'

relates to market-type coordination mechanisms: price, competition, decentralised decision-making.

In modern societies, higher education has become – and still is – overwhelmingly a public responsibility and is perceived as contributing to the public good. To a large extent it is heavily subsidised, publicly provided by employees of the state, and closely regulated in respect to curriculum, teaching and research staff, infrastructural facilities, and achievement standards. In historical terms this is a recent phenomenon and it is an interesting question why the development of a public mandate in higher education and research took the form of establishing publicly controlled, state-funded, state-owned institutions, rather than a system by which operating subsidies and contracts are granted to non-public organisations. Certainly, the well-established tradition of direct, extensive public responsibility for elementary and secondary education has created an important precedent for public involvement in higher levels of education. This is likely to be reinforced by the prominent role that education in general and higher education more specifically has played in building nation-states as well as their public sectors. Further, the emergence of the research university linked the research function to the educational one. This brought science and technology into the public realm, while the rise of modern science has benefited enormously from this marriage, as it became cross-subsidised and legitimised by its indirect teaching function.

The 'publicness' of higher education, including the important role of government responsibility, oversight, and funding, the legal status of the organisational providers and their staff, is not only a recent phenomenon, viewed historically, but is currently being challenged in many ways. There are many indications of a major transformation of the relationship between universities and society that also affect the universities' 'publicness'. The importance of innovative knowledge in modern societies places universities as 'knowledge institutions' in a central position, which, however, is not uncontested (Weber and Bergan 2005). Various developments are driving the further transformation of higher education and research, such as:

- the increasing difficulty that governments experience in providing a level of funding sufficient to accommodate growing student numbers and support costly research facilities;
- the increasing use of market or quasi-market mechanisms in the external and internal governance of universities;
- the increasing expectations as regards 'value for money', relevance, as well as 'excellence' in higher education and research;

- the increasing global competition for students, academics and funding;
- the rapid emergence of distance and cross-border education; and
- the rise of private non-profit and for-profit higher education providers in certain regions and countries around the world.

Higher education is currently undergoing multiple transformations in the midst of the impacts of overall public sector reform, the changing role of the state, new patterns of social demand, global flows and relationships, and the new technologies that are becoming available. The attributes traditionally associated with the 'public' and the 'private' in higher education have become unclear and contested, while the 'private' aspect of higher education is growing in incidence and importance. These developments challenge the traditional public provision of higher education and research and the high confidence placed in public institutions that they will provide education and research efficiently and effectively (Enders 2005). What is at stake as a result is the way higher education and research are governed, financed and provided. What is also at issue are changing beliefs about higher education and research as a public or a private good, or one that has elements of both public and private goods.

In elaborating this changing context of public-private dynamics in higher education, this introductory chapter maps the overall theme, its various manifestations, and thematic areas and contents of this volume. We address the different meanings of the 'private, the public, and the good', which tend to be confused in the often heavily politicised discussion surrounding the transformation of the modern university. We first take a closer look at the issue of 'the public good' in higher education and research. Second, issues of governance (Who decides?), financing (Who pays?), and ownership (Who provides?) are discussed, followed by a reflection on the benefits of higher education and research. Finally, we present and discuss the contributions to this book, which are organised under five themes:

1. public sector reform and public-private modes of co-ordination in higher education;
2. public and private funding in higher education;
3. public-private dynamics in a globalising context;
4. public-private dynamics and university research;
5. public and private providers in higher education.

1. The public, the private and the good

An important issue for contemporary higher education and research is that of the 'public good', or better, the conflict around the 'public good'. The various tasks that a university performs and its various outputs are currently scrutinised with respect to their value for the 'public' as well as the 'private'. In such a situation, a clear definition may be helpful, such as that provided by classical economic thinking. According to economic theory, a good (or service) is 'public' if it is 'non-rival' and 'non-excludable' (Samuelson 1954). Non-rivality in consumption implies that my consumption of a good does not prevent others consuming it too. My reading of a scientific article, for example, does not necessarily prevent others from reading the same article too. Knowledge, the central product of universities, may thus serve as a classical example of a non-rival good. Non-excludability implies that it is difficult, if not impossible, to limit access to a certain good. The production of knowledge may serve as a prime example of a good that is non-excludable, because it is difficult to make such knowledge exclusive or to control it privately. The consequence is that such a product cannot be left to the market because the market is primarily interested in selling for exclusive use to consumers who pay for the privilege. In theory, we may thus conclude that the central product of higher education and research has characteristics of a pure public good.

Theory is one thing, though, but things may look different in practice. Research outcomes may not be codified in publications or physical products and may only be available to those who have access to my tacit knowledge. Scientific knowledge may be encoded in publications in a language that is only accessible to a limited community of scholars in the field, who have previously invested in the capacities needed to understand this language. Secrecy and patenting provide means to exclude others from research outcomes, at least for a certain period of time. Access to taught knowledge is certainly restricted too, given the fact that study places are limited. In such a case, my consumption does prevent that of others. Legal barriers (such as a *numerus clausus* in certain disciplines) or financial barriers (such as high tuition fees for access to elite universities) may enhance further rivalry and exclusion. Finally, higher education and research in real life are produced by private providers who sell their products on the market, as well as by public providers who may charge a fee for access to their knowledge. There is thus no reason in principle to argue that such products can only be provided as public goods and free of charge. Some economists applying this perspective have concluded that universities provide services that are not

public goods (e.g. Barr 2004); others have concluded that they are 'impure public goods' (e.g. Schoenenberger 2005) or 'quasi public goods' (e.g. Jongbloed 2004).

In sum, higher education and research are certainly not a pure public good because they allow for a private as well as a collective return on investment. Examples of outputs that are closer to public goods include an informed citizenry, better public health, better parenting, lower crime, wider political and community participation, and greater social cohesion (OECD 1998). Outputs that are closer to the private good include, for example, credentials leading to high-paying jobs or marketable technologies. All of these goods are likely to lie somewhere between public and private goods, or have elements of both. Universities are not only multifunctional, multi-product institutions; their reality does not always correspond to ideal types of public and private goods.

For one thing, education and research, are both potentially characterised by external economies. A characteristic of education in general and higher education more specifically is that those who have not directly benefited from it may benefit indirectly because the general level of education in a given society may benefit all. Likewise, research may produce new insights and innovations that are not only beneficial to those who invent or exploit new knowledge but to society at large. Obviously, this does not necessarily imply that such goods are governed by the state exclusively, that they are fully publicly funded or can only be produced in public institutions. The important question of which institutional setting of governance, financing and ownership conditions is likely to generate such externalities is not a normative but an empirical one (Stephan 1996). The potential externalities of higher education and research rather imply that markets are unlikely to generate the public good purely on their own. This implies that there is a role for government – representatives of the commons, say – in assuring the production of goods that benefit society at large. Again, whether the commons are best represented by the government of a nation-state is an empirical question and not a normative given.

On another note, a certain public responsibility for higher education and research is legitimate due to the relative paucity of information on the private and public returns of higher education and research. Citizens may not be aware of the individual and collective returns of higher education. The consequence may be that their individual demand as well as collective support for higher education is inferior to what would be in the individual's or society's long-term interest. Likewise, information on research-based knowledge, on its potential usefulness for the public, as well as on its accessibility for the commons may be restricted. Again,

the consequence may be that individual access as well as public support fall short, having consideration to the potential benefits. Markets for higher education and research are imperfect because they do not spontaneously produce solutions to these problems. From an economic point of view, these (and other) market failures justify public intervention in higher education and research.

Public debate on that matter, however – including debates between policy-makers and representatives of universities – has a perennial tendency to be less concerned with such useful definitions and questions, which are open to empirical investigation. Many advocates of the modern welfare state, for example, were convinced that the notion of the public good in higher education and research can be defined by a normative theory of public administration. The related belief that higher education and research are to be publicly provided, financed and controlled, though, is a political value judgment and nothing else. In fact, policy-makers and representatives of universities both tend to focus increasingly on the contribution of teaching and research to private goods and the extent to which the public goods produced (may) have a marketable value and contribute to economic wealth. Belief systems are thus susceptible to change; they are nested in culture, policy sensitive, and sensitive to actors' interpretations. This is not to say that such belief systems are irrelevant, though. Institutional theory constantly reminds us of the importance of shared beliefs for the ongoing construction of social reality. Therefore, the study of such changing belief systems is important in understanding part of the social forces at work in the re-definition of the public, the private, and the good in higher education and research. The boundaries of any democratic polity are always contested. As those boundaries are contested, so is the nature of the public good.

2. Governance

Throughout the world, governments are experimenting with new models and instruments for the co-ordination of public service provision, including higher education and research. Traditional state instruments of close top-down control are losing ground and governments are seeking new ways to co-ordinate their higher education and research sectors. Many universities will probably retain important ties to the state through systems of oversight, contractualisation, and funding. However, the overall trend towards the 'decentration' of the state (see Thoonen in this volume) supports a change in the publicness of universities and other public providers of higher education and research. This trend is by no means all

new and may take quite different forms that provide an interesting field for cross-national comparative studies. Overall, awareness is growing that the wisdom of the visible hand of government in running increasingly complex social systems such as higher education and research is limited. Potential deficiencies of the public hand include, for example, the short time horizon of elected politicians, the separation of the costs of decisions from their benefits, inefficient production under conditions of near-state-monopoly provision of goods and services, unintended costs and unanticipated effects of government intervention due to incomplete information. There is also "no doubt that a great deal of government output is not well defined and its measurement is complex and difficult. The relationship between input and output is vague, uncertain or even unknown …" (Schoenenberger 2005, p. 83). On the one hand, this may help to explain the increasing role of government as it tries to enhance its steering capacities, as well as growing government intervention. On the other hand, government failures encourage the search for alternative ways of social coordination.

The introduction of market-type co-ordination mechanisms in higher education and research provides a most obvious alternative and also raises the most controversy. In many countries many of the ingredients of markets are still not in place in higher education and research, while quasi-market elements are becoming increasingly popular in higher education policy-making. As Teixeira et al. (2004, pp. 4-5) have shown, experimentation with market mechanisms takes three main forms: "The first is the promotion of competition between higher education providers. The second is the privatization of higher education – either by the emergence of a private higher education sector or by means of 'privatisation' of certain aspects of public institutions. And the third is the promotion of economic autonomy of higher education institutions, enhancing their responsiveness and articulation to the supply and demand of factors and products." 'Marketisation' in higher education and research thus is a complex and multi-faceted process.

Further, other forms of self-regulation are increasingly stimulated by governmental actors that have a potential of collective action to compensate for market and government failures. The professional self-steering of academic communities and the institutionalisation of a system of open knowledge production in the 'republic of science' can be seen as a classical example of such capacities for self-steering in higher education and research. Government attempts to enhance the autonomy and self-steering capacities of universities as corporate actors (De Boer et al. 2007) provide an example of a more recent attempt at 'enforced self-regulation' (Jongbloed 2004). The increasing use of networks that in-

clude public and private actors, such as business and consumer groups, in setting research priorities or in encouraging public-private partnerships provides another example. Science and technology policy nowadays routinely postulates the efficiency and effectiveness of steering in and by heterogeneous networks. Innovation networks, regional clusters, science polls, excellence networks, and competence networks are spreading as a means to encourage cooperation between heterogeneous partners as well as a means of neo-corporatist policy-making in these areas (see Vessuri et al. in this volume).

Obviously, governance arrangements and instruments are becoming more complex and mixed (see King in this volume), while we still know very little about their effects and thus their efficiency and legitimacy in coordinating higher education and research. Faith in the market is based on the fundamental tenet that competition creates efficiencies, cost savings and productivity gains. In summing up the findings of their book on markets in higher education, Dill et al. (2004, p. 345) point to "the strong indications that the pressure on universities for more market-like behaviour has had a positive impact in terms of cost per graduate and scientific productivity." Obviously, higher education is nowadays hosting more students, while research is delivering more outputs with overall funding that has not followed this growth. Dill et al. (2004) also point to the contribution of market mechanisms to the transparency in the system and the operation of universities, their growing flexibility, resilience and responsiveness. At the same time, serious concerns are raised about the costs of an increasingly fierce, globalising 'academic arms race' (Dill 2005). In such a race institutions and scholars rather invest in their standing in the positional market for reputation than respond to genuine market needs. Facing competition in markets and quasi-markets for customers and funding, the competition in informal and formal ranking systems for academic reputation can become an end in itself (Calhoun 2006). Public money may increasingly be used to reproduce or enhance the reputation of institutions and scholars, rather than as a means of serving the private and the public good.

Faith in networks is based on the tenet that cooperation and trust will create efficiencies, productivity gains, and legitimacy. Enhancing further linkages between actors from different social systems, such as politics, university, industry, and representatives of civil society, is part and parcel of the increasingly visible move from top-down steering and hierarchical forms of governance to interactive processes and policy networks. The basic assumption apparently is that the social relationships between these systems are limited and thus have to be enhanced by government incentives (see Rostan and Vaira in this volume). Geuna et al. argue that

this top-down approach to networking for research and innovation differs from a bottom-up approach. In the case of the US, for example, "it was the combination of high industrial demand for research and the relative high quality of the US science system's output that helped to generate the new networks bridging science and innovation. It was demand that created the new networks, rather than the networks that created the demand. In the case of Europe, policy has often created networks that are in search of demand" (Geuna et al. 2003, p. 399).

3. Financing

The belief that universities contribute to the public good, both in teaching and research, has traditionally legitimised the public financing of higher education and public research. Direct subsidies from government or quasi-government organisations such as research councils, and also indirect means of public financing such as grants to students or tax exemptions, rest on this notion. Private universities that work on a non-profit basis have frequently benefited from direct and indirect means of government financing (see Geiger in this volume), and even for-profit universities may have received indirect public support.

Throughout the world pressures on public expenditure for universities has grown while the costs of higher education and research are increasing. After World War II, the coincidence of various phenomena had contributed to a political climate that allowed a substantial increase of the expenses for higher education and research: namely, the belief that blue-skies research best serves society's needs for scientific and technological innovation; the boom of the economics of education, i.e. the belief that substantial educational investment is needed in order to ensure economic growth; the readiness to reduce inequality of opportunities in education. The quantitative development of expansion in higher education since the late 50s/early 60s was certainly the most obvious signal of such a changing role and extension of the mission of the university at that time. 'Massification' of higher education, though possibly interrupted by relatively short periods of stagnation, became a major global trend (Trow 1974). The transition from 'elite to mass to universal higher education' produced significant effects, one of which was that retaining the research function under the conditions of the mass university tended to starve universities of the resources required to sustain excellence (Schimank and Winnes 2000).

Research has also been affected by growth and expansion, as well as the search for societal and economic relevance. Internationally and na-

tionally, research in universities has experienced 'substantive growth'. "In a self-amplifying cycle of effects, research and scholarship steadily fashion more cognitive domains – disciplines, specialisms, interdisciplinary subjects – whose respective devotees then push on with new specialised categories of research" (Clark 1991, p. 103). Restless research has moved out in many directions to new frontiers and has thus undergone its own 'massification'. In addition, the rise of 'big science' (da Solla Price 1963), with its large-scale facilities and huge budgets, called for serious investments in research infrastructure and research-related personnel.

At the same time, state appropriations were declining, at least in relative terms, due to competing commitments. Increasing costs and fiscal stringencies thus generated discussion and action as regards new forms of external, non-government funding of higher education and research. Revenues from non-state resources play a growing role or are expected to do so in the future. Fees paid by students and their families, commercial cross-border education and courses for adults, commercial e-learning, external research funding from the private sector and the non-profit sector, and direct ties with business (licensing and patenting, partnerships to develop new research and products) all play their role in this development.

The tendency of many governments to place greater emphasis on the contribution of higher education as a private good also needs to be viewed against this background. Especially the advantages that graduates derive from higher education diploma legitimise a call for more individual contributions to the funding of higher education. One can see a world-wide trend towards increasing cost-sharing, i.e., the shift of some of the costs-per-student from government and taxpayers towards students and their parents. This trend can be detected in the increasing tuition fees in countries that are already used to such cost-sharing as well as in the introduction of tuition fees in countries where they were previously unknown.

Since the 1980s, too, research in higher education has increasingly come to rely on private sources of funding (Vincent-Lancrin 2006). In the OECD countries, government funding still plays a dominant role, but other sources of funding have increased more rapidly (from 18.6% in 1981 to 28.4% in 2003), which has led to a more diversified system. It is not unlikely that this trend will continue in the future, leading to a situation where half of the research undertaken in higher education may be financed by other means than government funding. This trend is usually supported from the side of policy-makers because of their hope that science and scholarship may be used more quickly and more efficiently for

practical purposes – and the related belief that the market is the most efficient mechanism to achieve such practical purposes. It remains clear, however, that enormous public benefits may be derived from the role universities are playing in the overall innovation system. What is less clear is how to organise public investments in such a way as to secure public benefit for public money.

In this context, another important trend needs to be addressed: public spending is increasingly allocated according to formulae and mechanisms borrowed from private, for-profit sectors or new public management approaches. As a consequence, revenues from state sources tend to be provided on more competitive and conditional terms (Salerno et al. 2006). Such funding may have many faces. It may be indicator based or review based, or both; it may come as the outcome of a negotiation, or as the direct outcome of a performance contract. It may apply to the basic subsidies given to an institution or group, to additional money given for special purposes, or both. We also notice that some of the funding schemes cover teaching and research activities while others cover either teaching or research activities. In any case, it is remarkable how public resource flows into higher education and research have changed in recent years while not much is known about how the changing funding shapes possibilities and practices in the system (see Kyvik in this volume).

4. Ownership

In much of the world, universities have been public organisations that fall under the realm of overall public service, its rules and regulations, its funding and supervision. Moreover, the legal status of the bulk of universities around the world is usually a public one. This aspect of the 'publicness' of universities is challenged by two developments: the rise of private universities and the blurring of the concept of the 'public university'.

First, the idea of the state relying on private institutions to provide public services has never been foreign to modern societies, while today it has certainly gained in popularity. Some countries have known a long tradition of universities as private corporations, typically organised on a non-profit basis. Usually, they tend to be treated as quasi-public organisations in recognition of their public mission in teaching and research. Private, for-profit universities have been the exception to the rule of publicly owned or publicly acknowledged universities. The rise of private higher education is thus one of the most remarkable developments

in higher education in recent decades (Duczmal 2006). As a result, the amount of research and analysis on this topic has increased dramatically (for a recent international bibliography, see Maldonado et al. 2004).

Taxonomic and analytic descriptions of the functions of private higher education have identified three roles of private higher education (Geiger 1986). The first function of private higher education is to provide *better* services. Such private elite institutions have existed for a long time in countries such as France, Japan, and the US. More recently, this type of private provider has also emerged in other countries in response to the decline of quality in the public higher education sector or in cases of severe competition for access to high quality public providers. A second function of private providers is supposed to provide *different* services. The obvious examples are religious-based providers that serve the preferences of religious communities. The third, and most prominent driver of recent growth in private provision consists of institutions that provide *more* higher education and absorb demand that is not met by public providers. This non-elite option is a characteristic of developing countries as well as developed countries that have to accommodate a massive increase in demand. Usually, governments lack the resources or the responsiveness to fund a massive expansion of the public higher education sector.

Second, the concept of the public university is becoming increasingly blurred. In the first instance universities are trying to escape the straightjacket of public control by changing their ownership status overall (e.g. becoming foundations) or by creating sub-units with a private or semi-public status. In the second instance revenues from private sources such as tuition fees and private research funding gain in relative importance next to governmental funding. If state provision is becoming a less important component of the overall revenues, the public character of the institution is becoming more ambiguous. In the third instance more and more public universities are actively engaged in profit-making activities through entrepreneurial initiatives such as the sale of research outputs, the provision of paid services and the like. Institutions seek a profit from these activities in order to reinvest the surplus in basic functions that are supposed to serve the public interest. Dill (2005) has recently argued that the concept of the public university is changing into the reality of the publicly supported university and that this publicly supported university is in fact better described as a 'not-for-profit' institution than as a 'non-profit' institution. Overall, such processes imply that the distinction between public and private institutions is blurring. Universities are becoming hybrids.

But does ownership matter? Basic and applied research, teaching and academic degrees, consultancy and services to the community are provided by public institutions, private non-profit and private for-profit institutions. Obviously, there is no reason in principle to argue that academic services can only be provided by public institutions. Moreover, private institutions provide public goods while public institutions provide private goods and increasingly try to sell them. The question is rather an empirical one, namely what the quality of the outputs is, what their costs are, and to what extent the public will benefit from these services (see Goodman and Yonezawa as well as Kent in this volume). It is thus difficult to argue that institutions have to be public or private. Research has also put forward the hypothesis that the more substantial the external conditions (for example regulatory oversight and competition), the smaller the differences between nonprofits and for-profits (Powell and Clemens 1998). The main issue is thus to study the impact of external conditions on the behaviour of institutions and to study under which conditions higher education institutions and systems assure quality, efficiency as well as accessibility (see Duczmal and Jongbloed in this volume).

5. Benefits

An unintended consequence of the growing importance of the issues discussed above is that questions of efficiency, cost-effectiveness, and practicality dominate much of the discussion of higher education and research. These issues are crucial ones but are obviously related to performance. Performance is related to the idea of the public good and to such questions as: Which public? And for whose good?

Experience shows that the 'publicness' of higher education by no means always assures fair access and equity based on merit and talent. In the days of elite higher education large government subsidies and overall government responsibilities were usually uncontested, even though higher education served a happy few with a privileged parental background. The important contribution of public higher education to the self-reproduction of societal elites was not a matter of principle concern. The massification of higher education – that is the increasing demand for and supply of higher learning in many societies – was partly supported by a widespread belief that more higher education will open access to formerly excluded groups in society. Many public systems and universities are, nevertheless, still quite far removed from open, fair access. It is thus not surprising that in many parts of the world newly

emerging or expanding private providers serve those groups in society that are excluded from public provision of higher education. These developments are not without a certain irony. In most parts of the world public universities that served the training of elites benefited from a largely uncontested, quite substantial support from the public purse. In times of mass higher education and more open access to higher education, public support for higher education becomes more contested. Often it is private providers that serve previously marginalised student groups, who have to pay, while privileged groups are served by the publicly funded sector. Traditional public universities may also "compromise student learning in an effort to gain academic prestige, profit-making institutions have a greater incentive to compete on educational value added, since they cannot make money by contesting on reputational indicators such as student selectivity and academic research. Therefore, for-profit universities were more likely than their public and private not-for-profit peers to invest resources in activities designed to meet the needs of enrolled students rather than in efforts designed to boost institutional prestige" (Dill 2005, p. 7).

A related argument concerns the increasing call for societal relevance of science and scholarship. Put very simply, two alternative, even though not mutually exclusive arguments challenge the view that public science and scholarship are serving the public good. According to the first argument, science and scholarship are just not doing enough to serve the public good. In this context it is widely agreed that the most important challenges facing us today can be met only with the massive support of research-based knowledge. Scientists and scholars, however, are continuously preoccupied with communicating within their own system, *viz*., their scholarly communities, instead of being responsive to the societal needs of today and tomorrow. New forms of governance, financing, and organisation are thus needed to encourage 'new modes of knowledge production' (Gibbons et al. 1994) and interaction between science and its publics. According to the second argument, science and scholarship are not only serving the public good but also the 'public bad'. In this context, it is widely agreed that science and scholarship are not only the solution to the problem but also the very reason for major problems, such as global warming. Beck (1992) has built these notions of the public losing faith in science into his theory of the risk society that calls for a new public understanding of science as well as a new scientific understanding of the public.

Finally, globalisation as 'the widening, deepening and speeding up of world wide interconnectedness' (Held et al. 1999, p. 2) raises questions, old and new, about the provision and access to higher education

and research on a global scale (see Marginson in this volume). Globalisation is more frequently and easily affiliated with the 'private', global production and consumption of private goods, marketisation, and competition in higher education. Global communication, global learning and global understanding are less frequently set on the agenda of the debate on higher education and if they are, they tend to be regarded as utilitarian means towards a better functioning of global economic markets. But growing global flows of knowledge, people, and money, and the restrictions that limit access to these resources are playing a dramatically increasing role for higher education and research. In effect, international relations in higher education and research have become more visible, as have their positive and negative effects. This applies most obviously to the dramatic and continuing global inequalities in access to higher education and research between the global South and the global North. It also applies to the increasing competition between nation-states and global regions for innovative knowledge that provides first-mover advantages in the production and sale of global private goods and services. We simply cannot confine ourselves any longer to the question 'Who benefits?' On a national scale, we probably never could. In consequence, the issue of the public, the private and the good goes global while questions related to governance, financing, and ownership in higher education and research are no longer limited to national coordination and regulation.

6. Contents of the book

In our book we seek to outline the contours of these public-private dynamics in five parts: first, by addressing public sector reform and public-private modes of co-ordination in higher education and research; second, by examining public and private funding and their effects on the production in higher education; third, by setting the public-private dynamics in a globalising context; fourth, by discussing the public-private dynamics in research; and fifth, by setting out some discussions on the role of public and private providers in higher education.

I. Public sector reform and public-private modes of co-ordination in higher education

The papers in this first part focus on further building a more general understanding of the role of state regulation, the reform of the public sector, and the role new forms of governance play in the transformation of the modern university.

In his paper "Public sector reform in the knowledge based economy", *Theo Toonen* examines the experience of public sector reform in cross-national perspectives over the last two or three decades. To him, understanding variation is the key. The paper shows that various countries with different administrative systems have followed different patterns of reform within a broader framework of administrative values for 'good governance' of which managerial values are one dimension. In this context, the public private dynamic took on different forms while the key driver for the blurring boundaries between sectors and the growing attempts for border-crossing is the emergence of the knowledge-based economy. There is an understandable reflex to attribute changes in the field of higher education and research to changes in governmental policy. From a perspective of administrative reform, however, it is more accurate to represent governments and higher education systems as both being subjected to the same overall development of a knowledge-based economy. Government and public sector behaviour are not exogenous but endogenous to this development. The concept of the knowledge-based economy suggests that governments and higher education systems are both subjects and objects of the impact of the same overall technological, international, cultural, and economic developments. The dynamics in public-private relationships in the knowledge-based economy are just as much caused by the private as by the public sector side of the coin.

Roger King addresses the issue of "Governing Universities: Varieties of National Regulation", arguing that the theme of 'public-private dynamics' is nowhere better illustrated than in an account of higher education regulation. At first sight, this statement appears perverse. After all, public rule-setting and compliance seem at odds with the notion of a 'private space' where non-governmental social and market actions predominate. Yet increasingly markets are constituted and enhanced by law and policy, such as the enforcement of property and contract rights, and are also moderated socially to enable such desirable outcomes as customer protection and accountability. The paper explores these public-private dynamics in different higher education systems, exploring the notion of a 'regulatory space' containing quite messy combinations of state, market and self-regulatory instruments. Rather than approximating to particular, ideal or typical forms, regulatory systems in particular countries contain often quite overlapping elements, and these constructions vary in different jurisdictions. Moreover, rather than globalisation leading to regulatory convergence in higher education, it is proposed, from an analysis of the USA, South Africa and England that national varieties in regulatory styles remain, and that these are at least to some ex-

tent explained by distinctive historical and structural factors, by country position in the global division of labour, and by explicit public policy purposes.

Alberto Amaral and *António Magalhães* pick up the issue of the potential downsides of institutional prestige-seeking in a more competitive environment. Neo-liberal governments proclaim that the state should decrease its activity as a service provider and that state regulation should retreat in favour of market regulation. This policy approach goes along with measures to strengthen higher education providers' autonomy and capacity for organisational self-steering. More autonomous institutions forced to compete under quasi-market conditions may, however, pursue strategies aimed at increasing 'their own good' which may not necessarily coincide or converge with governments' expectations that they shall contribute to the 'public good'. In turn, such imperfections are opening the way towards increased state interference. In their paper "Market competition, public good and state interference", data from Portugal and the UK are analysed to understand the behaviour of more autonomous institutions in a competitive environment and the related trends of state interference in higher education. The paper argues that an effective delegation of public interest decision-making to institutions requires an affirmative desire to interpret and serve the public good, the will to hold institutional self-interest at bay, and the financial strength to balance intrinsic values with market forces.

II. Public and private funding in higher education

This second part of our book relates to the simultaneous provision of higher education funding by public and private sources as well as to the related questions about quasi-market competition for funding in higher education.

Ben Jongbloed's paper "Creating public-private dynamics in higher education funding" presents three options for the public funding of higher education, each based on a different steering philosophy. The essay starts with an international overview of total (public and private) expenditure on higher education. This is combined with quantitative information on the level of private contributions in a large number of OECD countries. In particular, levels of tuition fees are shown for a couple of higher education systems in OECD countries. Different options for funding higher education are then presented and classified in a two-dimensional framework. Three different funding options are discussed within the context of this framework. The models integrate arrangements for student support as well as for the private contributions (tuition fees) paid by students/graduates/employers. The advantages and

disadvantages of the alternatives are discussed from the perspective of the key stakeholders in higher education, that is: the students, education providers, government/taxpayers, employers/business. The three options point to some of the trade-offs and dilemmas that will occur in any discussion of the reform of higher education funding. The dilemmas concern the borders to be drawn – finance-wise – between, first of all, publicly funded providers/programs and non-funded (i.e. private) institutions/programs, and, secondly, initial higher/tertiary education and post-initial higher/tertiary education. This touches on the level-playing field discussion. In other words, regulation is at stake here. It automatically leads to a debate on demand-driven versus supply-driven funding and the conditions (e.g. transparency, student support, availability of information on public benefits and private benefits derived from higher education) under which a demand-driven system could work.

In his paper "The publicness of private higher education" *Roger Geiger* points to the role of public funding for private institutions. For the past quarter-century the dominant trend in higher education in the United States and throughout much of the world has been privatisation. Less conspicuous has been the tendency of private institutions to claim growing amounts of public resources. The paper explores these public-private dynamics in the U.S. by specifically focusing on two important contemporary trends: the extraordinary increase in the prosperity of selective private colleges and universities and the explosive growth of for-profit institutions of higher education. In both cases the trend toward privatisation has been fueled in important ways by government policies and public funds. The paper shows that using public funds to enlarge the purchasing power of students has produced great rewards for selective private colleges and universities, making it possible for them to differentiate on the basis of quality and thereby raise prices. Corporate universities have also been able to exploit this system by effectively competing for highly subsidised (hence, price insensitive) lower-income students and minimising opportunity costs. The loser in this kind of system has been public higher education, which has seen its subsidies siphoned off by increasing public support for the private sector. This has in turn compromised its ability to maintain a mixed strategy of reasonably low costs and reasonably high quality for the majority of traditional students.

Dominic Orr addresses the limitations to competitive elements in German higher education, with a special focus on higher education funding. The analysis is based on an international comparison and a closer study of the changing coordination framework in Germany. The paper shows that the main instrument for implementing competition in German higher education is currently the method of allocating the state sub-

sidy, since it is the most significant component of institutions' incomes. On the supply side, competition between institutions is constrained, as institutions can only partially determine how many students and which students they enrol. Furthermore, certain conditions of provision are regulated from outside the institutions, thus restricting their efforts to provide courses appropriate to their own 'consumer profile'. On the demand side, students are restricted in their choice of institution by the university admission and application system and their choice is further inhibited by a lack of information on course provisions and their respective quality.

III. Public-private dynamics in a globalising context

This third part of our book covers conceptual issues of higher education and research as a public and private provision and good in the era of globalisation as well as issues of inter-organisational cross-border cooperation and competition.

The paper by *Simon Marginson* "Five somersaults in Enschede: Rethinking public/private in higher education for the global era" argues for a reconstructed public/private distinction in higher education based on the social character of its complex outputs. He argues that the public/private divide based on legal ownership is obsolete. If public goods are outcomes that are non-excludable or non-rivalrous (collective goods and externalities), these are produced by both state sector and private sector higher education institutions. At the same time, private goods, e.g. select places in elite universities, are produced in both state and non-state institutions. Marketisation augments private goods relative to public goods, while enhancing the zero-sum element in relations between them, and leads to under-production of public goods. Policy should thus foster win-win dependencies that maximise both public and private goods. The paper applies this logic to both national and global higher education, and argues that because there is no global state, a definition of 'public' based on state ownership tends to neglect global public goods/'bads', which are now very significant. It is thus necessary to reconsider the governance of higher education and research on a global scale.

Terhi Nokkala analyses the "Discursive construction of higher education as public and private good in the Bologna Process". The Bologna Process is said to be one of the most profound changes encountered by European higher education, and it is firmly rooted in the ongoing discussion on the globalisation of higher education. Based in critical discourse analysis, the paper suggests that looking at the Bologna Process discourse provides us with important insights not only about the Bologna

Process itself, but also the wider change in the legitimacy of higher education as a social institution. Although a discursive shift towards the private good nature of higher education can be observed, the more important development can be seen in the conceptualisation of the public benefits. The public good nature of higher education seems to take a new shape: the public benefits do not operate on an abstract level of a general good, but are specifically related to the aspirations of the states to become knowledge societies and economies. Higher education has to be relevant, and relevance is increasingly defined in terms of the employability of graduates and direct contributions by the higher education institutions to the economic competitiveness of states and regions.

In response to processes of globalisation and regional integration, internationalisation activities in universities have changed. Flows have become more massive, the range of activities has broadened, and internationalisation has shifted from a marginal activity to a central institutional issue with strategic importance. These shifts can also be observed in international cooperation among universities. *Eric Beerkens'* paper "Global opportunities and institutional embeddedness: Higher education consortia in Europe and Southeast Asia" addresses the increase and change of interorganisational arrangements in higher education. One type of such arrangements – higher education consortia – is analysed in detail in this paper, taking inter-organisational diversity as its starting point. The basic thesis is that partners need to be similar, yet different, or in other words there needs to be sufficient complementarity as well as sufficient compatibility among the participating universities. This thesis is based on two different perspectives on universities. The resource-based view argues that organisations cooperate in order to gain access to complementary resources, which they need in order to achieve a sustainable competitive advantage. Embeddedness theories and institutional theories argue that organisations are embedded in and shaped by their (national) institutional context. From this viewpoint, cooperation between partners will be hindered if such institutional backgrounds are incompatible with each other. It is argued that the most successful consortia will be those that show a high level of both complementarity and compatibility. The chapter also explores the ways in which the management of consortia can improve the levels of complementarity and compatibility.

Bobby Harreveld, *Patrick Danaher*, *Daryl Alcock* and *Geoffrey Danaher* also discuss notions of globalisation and alliances in higher education. Their paper "Brokering funding-induced changes in higher education: preliminary findings from research within a 'hybrid' university" examines changes in Australia's higher education system which

have been brought about by shifts in funding sources, delivery modes for teaching and learning and student catchment markets. The chapter focuses on the implications of these shifts in funding for the future governance of a local–global university in Australia that relies substantially for its economic survival on funds generated from alliances in the public–private higher education sector. So far, the market pool for Australian universities has been predominantly the Asian markets. Countries such as Singapore, Malaysia and China are eager to be participants in this growth industry, and opportunities for the development of profit/not-for-profit strategic alliances exist for the daring. While the profit potential is high, alliances between for-profit and not-for-profit organisations will have risks. There are a number of viable alliance models that can be assessed by the potential entrants to these markets while a cautionary note of care is advised. However, there is sufficient evidence to suggest that the benefits will outweigh the costs if the partnership is managed properly.

IV. Public-private dynamics and university research

This part of the book covers topics such as science and technology policies stimulating strategic research, university-industry cooperation, new modes of public-private research funding, and their consequences for university research.

The paper by *Pedro Conceição*, *Manuel Heitor* and *Hugo Horta* "From public to market support for science and technology" attempts to contribute to a better understanding of the reality of the US university landscape as regards research funding. The paper confirms that public funding continues to be by far the largest source of income of US universities for R&D, and that this funding is more critical for the universities than for the rest of the science & technology system. Further, it is shown that expenditure per researcher in the entire US science & technology system is balanced between public (universities, Federal laboratories) and private institutions (business sector), while in Europe there is an imbalance towards the private sector. In the US, the university is also gaining importance as an R&D performer. Funding is heavily concentrated in the top one hundred universities while the US higher education system is still extremely diversified, with various revenue sources. The US higher education system's diversity is maintained by a range of federal R&D funding agencies that allocate funds to narrower or wider sets of universities according to the scientific complexity or goal of their research objectives. Given this situation, the vast majority of universities specialise in R&D for certain agencies' research interests.

It has come to be commonly accepted that the innovation process is dependent on dynamic links between the production of new knowledge, knowledge transfer and economic performance. Particularly in developing countries, attempts to restructure higher education to serve as a more efficient and effective economic driver have often foundered. To explore these issues in greater detail, *Hebe Vessuri*, *María Victoria Canino* and *Isabelle Sánchez-Rose* look into the complex relations of knowledge in industry, the legacies of economic and intellectual elites and state power; the encounter of different forms of knowledge carrying unequal social prestige; and the roles of academic research. Their paper "The distributed knowledge-base of the oil industry in Venezuela and its private-public dynamics" shows that the effectiveness of specific forms of collaboration depends on a reasonable reciprocal understanding of the knowledge partners, each with its different priorities; and power conditions that should not be too unequal. To be effective, the various actors involved must be capable of articulating and satisfying their particular needs and interests through a 'mediation space' that implies a set of key concerns, and where particular aspects of emphasis and strength will vary as well. This reinforces the conclusion that it is as much the context as the linkage model that determines institutional capacities in the transfer of knowledge and technology.

During the 1990s, two parallel reform processes triggered several changes in the Italian science and technology system. These processes are having a powerful impact on university/industry relations, fostering an unprecedented situation in the country. *Michele Rostan* and *Massimiliano Vaira* analyse these "Changing patterns of university-industry relations in Italy". The paper describes the structure and culture of the higher education system and the industrial system, as well as the institutional changes that occurred in the last decade. Based on several case studies, the paper reports evidence of the ongoing changes in university/industry relations, both in Northern and in Southern Italy. An interpretation of the findings of these case studies is based on the concept of an organisational field structuring process: first, policy reforms introduce a different constitutive and generative principle, and a different logic of functioning for higher education in the science & technology field. Second, new organisational actors with their demands, needs and resources enter the academic field. This, in turn, entails the emergence of a new structure of resources and constraints as well as of constitutive and normative rules affecting the Italian academic field.

Over recent decades a strong relative decline in general government grants for university research and a subsequent increase in programme and contract research has taken place in most countries. *Svein Kyvik*

provides data from Norway on "Changes in funding of university research. Consequences for problem choice and research output of academic staff". Data on Norwegian university research indicate that this change in funding policy has not affected scientific practice among academic staff in important ways. The strong increase in contract and programme research in the 1980s and 1990s led to only a relatively small decline in the percentage of academic staff who reported that their research was mostly basic. These statements are corroborated by publication data. International journal articles enhanced their position as the dominating type of publication, while reports declined in importance. Furthermore, no significant differences were found in publication practice between academic staff who had undertaken contract research or programme research and those who had not been involved in such activities. Two explanations are discussed for the discrepancy between speculations on the consequences of increased contract/program funding and their measured effects on research practices: the allocation of programme and contract funds is to a large extent based on traditional scientific criteria, and academics are often reluctant to engage in applied research if the results are not also expected to contribute to basic research output.

V. Public and private providers in higher education

The final part of our book covers national perspectives on the emergence, role and governance of public and private providers in higher education, the changing role of ownership and the relationship between public and private providers.

In 1989, Poland was freed of its communist ties and began its route to the market in all economic sectors. Polish higher education went through a rapid period of reform and a large private higher education sector emerged. The paper by *Wojciech Duczmal* and *Ben Jongbloed* analyses the effects of the injection of market forces into the higher education system, looking at the strategies of private higher education institutions. Their analytical approach is a mix of elements from industrial analysis and institutional theory, set in a context of monopolistic competition. Use is made of the 'Five Forces' model developed by Michael Porter to analyse the main competitive strategies of higher education providers in terms of markets served, price setting, programme offerings, location, etc. Their empirical research demonstrates that the reactions of private higher education providers in terms of their location, pricing strategies, and decisions on the subjects taught and modes of delivery can be well understood in the light of this interpretation framework. Most private higher education institutions in Poland, as in other

countries facing an undersupply of higher education, are vocationally and commercially oriented colleges. They primarily strive to survive in the marketplace rather than to boost the broader public good. Their study offer is oriented towards low-cost study programmes in high-demand disciplines. However, some changes can be observed over recent years, such as an increased variety in programmes that can be explained by changes in the demand for and the institutional environment of higher education.

The paper by *Roger Goodman* and *Akiyoshi Yonezawa* "From private to public good? The changing relationship between public and private higher education in Japan" discusses the changing political context for higher education institutions as well as the consequences of demographic developments. Although Japan is a latecomer, policy ideas derived from New Public Management and related to privatisation and marketisation have also gained in importance in Japan. Recently, Japan experienced the privatisation ('incorporation') of all public institutions. The paper argues that the main driving force for the changing public/private dynamics, however, is not so much deregulation policies but demographic change. Private universities cater to the bottom 75% of students and rely almost entirely on fees from students for their survival. There is little possibility of an increasing state subsidy for these institutions, and 'lower-level' private universities are increasingly being confronted with a bleak future. In order to survive, it is widely accepted that many private universities will need to search for new markets and to 're-invent' themselves. Their internal management structures often make such organisational reforms difficult to implement. In turn, this fosters New Public Management approaches.

Rollin Kent's paper "Mapping Private Sector Expansion in Mexican Higher Education" offers an analysis of expansion and institutional differentiation of private higher education in Mexico. It documents recent growth in this sector and describes the relevant policy decisions. The premise is that private and public institutions are part of a common institutional setting in which policy plays a role, whether implicitly or explicitly. In contrast to recent research that stresses the anarchic growth of private higher education in some countries, the main thrust of the analysis lies in suggesting a typology for understanding growing institutional diversity in private higher education, building primarily on Burton Clark's concept of horizontal and vertical forms of diversification. It is shown that in a setting of rapid and unregulated private sector expansion, as in Mexico, the search for educational quality and diversity is often superseded by niche-making in markets that are already saturated. The push for graduate education may, however, stimulate vertical differ-

entiation towards an academically distinct set of institutions in the private sector.

Traditional arguments for the public or private nature of higher education are based on economic rationales. The paper by *Gaetano Luberto* brings us back to a public higher education system and argues that it would be much more defensible to relate the public nature of higher education to the need to foster variety and diversity in the system. In this light, higher education institutions should experiment in full autonomy with diverse combinations of scholarship and teaching in order to find the most appropriate responses to the private and public needs of their differentiated environment. The Italian higher education system is used as a case study to show that a state-centred public higher education system may, however, be pushed towards uniformity and standardisation. The result has been a higher education system that is unable to perform effectively under the changing conditions of mass higher education. The recently attested vicissitudes of higher education in Italy can be well explained in terms of a cultural clash about the meaning and value of institutional variety and autonomy for higher education.

Following the analyses presented above, it becomes clear that all over the world new ideas and practices are emerging not only on how to organise a higher education system and its institutions, but also on how to organise its relationship with society and economy. Universities are driven by this transformation while they are also drivers of the knowledge-based society. They are increasingly embedded and embed themselves in new networks and configurations, sometimes being major players in a global competition. The old regime of a more or less strict separation between the public and the private is diminishing. The blurring of boundaries brings about entirely new institutional settings in relation to the cooperation and interfaces of universities with governments, other stakeholders, allies and competitors. Governance, financing, and ownership are not given institutional characteristics but form dynamic relationships that undergo change and reform as well. The ongoing and multi-faceted public-private dynamics in the field thus form part and parcel of a broader transformation towards a new social contract for universities (Neave 2006) in the knowledge-based society. We are currently observing the rise of a new political economy of higher education and research. Our volume puts some of its constituent elements into place.

References

Barr, N. (2004). *The Economics of the Welfare State*. Oxford: Oxford University Press.

Beck, U. (1992). *Risk Society: Towards a New Modernity*. New Delhi: Sage.

de Boer, H.F., Enders, J. and Leisyte, L. (2007). 'Public Sector Reform in Dutch Higher Education: The Organizational Transformation of the University', *Public Administration*, 85, 1, 27-46.

Calhoun, C. (2006). 'The University and the Public Good', *Thesis Eleven,* 84, 7, 7-43.

Clark, B.R. (1991). 'The Fragmentation of Research, Teaching and Study: an Explorative Essay', in Trow, M.A. and Nybom, Th. (eds.), *University and Society. Essays on the Social Role of Research and Higher Education*. London: Jessica Kingsley Publishers, pp. 101-111.

Dill, D.D. (2005). 'The Public Good, the Public Interest, and Public Higher Education'. *Paper prepared for the conference 'Recapturing the "Public" in Public and Private Higher Education'*. City University of New York.

Dill, D.D., Teixeira, P., Jongbloed, B. and Amaral, A. (2004). 'Conclusion', in Teixeira, P., Jongbloed, B., Dill, D.D. and Amaral, A. (eds.), *Markets in Higher Education: Rhetoric or Reality?* Dordrecht: Kluwer, pp. 327-352.

Duczmal, W. (2006). *The Rise of Private Higher Education in Poland. Policies, Markets and Strategies.* Doctoral dissertation. Center for Higher Education Policy Studies (CHEPS), University of Twente.

Enders, J. (2005). 'Higher Education in Times of Discontent? About Trust, Authority, Price and Some Other Unholy Trinities', in Bleiklie, I. and Henkel, M. (eds.), *Governing Knowledge. A Study of Continuity and Change in Higher Education – A Festschrift in Honour of Maurice Kogan*. Dordrecht: Springer, pp. 31-48.

Geiger, R.L. (1986). *Private Sectors in Higher Education: Structure, Function, and Change in Eight countries*. Ann Arbor (Mich.): University of Michigan Press.

Geuna, A., Salter, A.J. and Steinmueller, W.E. (2003). *Science and Innovation, Rethinking the Rationales for Funding and Governance.* Cheltenham: Edward Elgar.

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P. and Trow, M. (1994). *The New Production of Knowledge*. London: Sage.

Held, D., McGrew, A., Goldblatt, D. and Perraton, J. (1999). *Global Transformations: Politics, Economics and Culture*. Stanford: Stanford University Press.

Jongbloed, B. (2004). 'Regulation and Competition in Higher Education', in Teixeira, P., Jongbloed, B., Dill, D.D. and Amaral, A. (eds.), *Markets in Higher Education: Rhetoric or Reality?* Dordrecht: Kluwer, pp. 87-112.

Maldonado, A., Yingxia, C., Altbach, P.G., Levy, D. and Hong, Z. (2004). *Private Higher Education: An International Bibliography*. Chestnut Hill (Ma.): Center for International Higher Education, Boston College.

Neave G. (2006). 'Redefining the social contract', *Higher Education Policy,* 19, 269-286.

Organisation for Economic Cooperation and Development (OECD) (1998). *Returns to Investment in Human Capital*. Paris: Centre for Educational Research and Innovation, OECD.

Powell, W.W. and Clemens, E.S. (1998). *Private Action and the Public Good*. New Haven and London: Yale University Press.

Salerno, C., Jongbloed, B., Slipersaeter, S. and Lepori, B. (2006). 'Changes in University Incomes and their Impact on University-based Research and Innovation'. *Final report for the "Changes in University Incomes: Their Impact on University-Based Research and Innovation" (CHINC) project*. Seville: Institute for Prospective Technology Studies.

Samuelson, P.A. (1954). 'The pure theory of public expenditure', *Review of Economics and Statistics*, 36, 4, 387-389.

Schimank, U. and Winnes, M. (2000). 'Beyond Humboldt? The Relationship Between Teaching and Research in European University Systems', *Science and Public Policy,* 27, 6, 397-408.

Schoenenberger, A.M. (2005). 'Are higher education and academic research a public good or a public responsibility? A review of the economic literature', in Weber, L. and Bergan, S. (eds.), *The Public Responsibility for Higher Education and Research*. Strasbourg: Council of Europe Publishing, pp. 45-94.

da Solla Price, D.J. (1963). *Little Science, Big Science*. New York: Columbia University Press.

Stephan, P.A. (1996). 'The Economics of Science', *Journal of Economic Literature*, 34, 3, 1199-1235.

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

Trow, M. (1974). 'Problems in the Transition from Elite to Mass Higher Education', in OECD (ed.), *Policies for Higher Education*. Paris: OECD, pp. 51-101.

Vincent-Lancrin, S. (2006). *What is Changing in Academic Research? Trends and Future Scenarios*. Paris: Centre for Educational Research and Innovation, OECD.

Weber, L. and Bergan, S. (2005) *The Public Responsibility for Higher Education and Research*. Strasbourg: Council of Europe Publishing.