

1

Competing for Public Resources: Higher Education and Academic Research in Europe – A Cross- Sectoral Perspective

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1.1 Introduction

The chapter focuses on the increasing cross-sectoral competition for public resources between various types of public sector institutions in Europe and its implications for future public funding for both higher education and academic research. It views the major models of the institution of the modern (Continental) university and the major types of the modern institution of the state, and of the welfare state in particular, as traditionally closely linked (following Becher and Kogan, 1992; Kogan and Hanney, 2000; Kogan et al., 2000). Historically, in the postwar period in Europe, the unprecedented growth of welfare states and state-funded public services was paralleled by the unprecedented growth of public universities. The massification of higher education in Europe coincided with the growth of the welfare state in general. We are witnessing massification processes in higher education and far-reaching restructuring processes of welfare states. The major implication is the fierce competition for public resources, studied in this chapter from a cross-sectoral perspective, in which the future levels of public funding for higher education in tax-based European systems are highly dependent on social attitudes toward what higher education brings to society and the economy, relative to what other claimants to the public purse can bring to them.

1.1.1 Reconfigurations of knowledge production: a larger context

Knowledge production in European universities is undergoing a significant reconfiguration, both in its governance and authority relationships (Whitley et al., 2010) and in its funding modes (Martin and Etzkowitz, 2000). The combination of ever-increasing costs of academic research and the decreasing willingness and/or ability of European governments to finance academic research from the public purse (Aghion et al., 2008; Geuna and Muscio, 2009) leads to growing emphasis in both national and European-level policy thinking on seeking new revenue sources for research universities (Alexander and Ehrenberg, 2003; Mazza et al., 2008). New sources may include increased fees for the teaching mission and increasing reliance on various forms of third-stream activities leading to more noncore nonstate income for the research mission (Geuna, 1999; Shattock, 2009; Temple, 2012).

The inter-sectoral national competition for tax-based public funding has been on the rise in the last two decades, following the rising costs of all major public services, especially health care and pensions (Kwiek, 2006; Powell and Hendricks, 2009; Salter and Martin, 2001). At the same time, both the ability and the willingness of national governments to fund growing costs of both higher education and academic research may be reduced even more for reasons such as a shrinking tax base (Tanzi, 2011), financial austerity (Blyth, 2013; Schäfer and Streeck, 2013), escalating costs of maintaining the traditional European welfare state model and economic challenges resulting from global economic integration, and the transition to knowledge-based capitalism, as well as the overall social climate in which, in the opinion of both the population at large and policy-makers, the promises of science are not being delivered by public universities.¹

Institutions often do not undergo their transformations in isolation: they operate in parallel, and in parallel they often change, as Aldrich (2008), March and Olsen (1989), and Brunsson and Olsen (1993) argued. There is thus a complex interplay of influences between institutions and their environments, and European universities are perfect examples of the powerful connectedness between changes in institutions and changes in the outside world from which

they draw their resources, founding ideas, and social legitimacy. The institution of the university in Europe, we assume here, may be undergoing a fundamental transformation, along with the institution of the state itself and the welfare state in particular. Institutions change over time, but so do social attitudes toward institutions.

1.2 The increasing competition for public resources

In very general terms, public expenditures for all publicly funded public services can be studied in the context of a zero-sum game. Higher expenditures in one sector of public services, for instance, public pensions for the aged or public higher education, occur at the expense of expenditures in other sectors of public services, for instance, public healthcare, or public infrastructure such as roads and railroad systems, law and order, and so on, unless public resources are increasing along with expenditures and the pie to be shared is bigger. Such a zero-sum game in public expenditures was evident in European post-communist transition countries, especially immediately following the collapse of communist regimes in 1989 and throughout the 1990s. Public policy choices were hard, priorities in expenditures were hotly debated political issues; higher education and academic research, certainly, have not been on the top of the list of public priorities. Carlo Salerno (2007, p. 121) argues that the 'marketization' of higher education recasts the problem of priority-setting in public spending in terms of the resources available to achieve them: 'Society values what the University produces *relative to how those resources could be used elsewhere*' (Salerno, 2007, p. 121, emphasis added). The present chapter focuses on the idea of the current ever-increasing competition for public resources between the three major claimants to the public purse in Europe, higher education, old-age pensions and healthcare services, and the increasing instability combined with growing conditionality of all public-sector funding (in much more detail, see Kwiek, 2015).

The traditional social obligations of the state are under sustained, fundamental revisions, and some activities and objectives viewed today as basic could be redefined as being outside of traditional governmental duties (Hovey, 1999, p. 60). The higher education sector has to compete permanently with a whole array of other socially attractive and socially useful forms of public expenditures.

The sector, to win the competition for public funding with other segments of social and welfare programs, has to be more competitive in its national offers compared with other claimants to the public purse. State-funded services and programs have traditionally included healthcare, pensions, and education, but today the costs of healthcare and pensions are expected to escalate in aging Western societies while higher education is increasingly expected to show its 'value for money'. It may be expected both to reduce some of its costs and to draw ever more noncore nonstate funding on the revenue side (CHEPS, 2010; Shattock, 2009).

Transformations in public-sector services in general, and in higher education in particular, are expected to be gradual and long-term rather than abrupt and short-term. The construction of public higher education architectures, especially those of governance and funding, in postwar Europe took decades, and their transformation will take decades too. What may increase in the future is the role of the accumulation of small, subtle, gradual, but nevertheless transformative changes (Mahoney and Thelen eds, 2010).² The welfare state after its 'Golden Age' in the 1960s and 1970s in Europe entered an era of austerity that forced it 'off the path of ever-increasing social spending and ever-expanding state responsibilities' (Leibfried and Mau, 2008, p. xiii). Similarly, public higher education and research sectors in Europe also stopped being a permanent 'growth industry' (Ziman, 1994), with ever-increasing numbers of institutions and faculty and ever-expanding public research funding available. The transformation paths of the welfare state and of higher education over the last half-century show similarities, with the age of expansion and massification and the age of austerity experienced during similar periods across Europe.

The scale of operations and funding of universities, including both university teaching and university-based research, remain historically unprecedented. Never before has the functioning of universities brought so many diverse, both explicitly public and explicitly private, benefits. But, also never in postwar history were all aspects of their functioning analyzed in such a detailed manner from international comparative perspectives, and, indirectly, carefully assessed by international organizations (Martens et al., 2010). Measuring the economic competitiveness of nations increasingly means, *inter alia*, measuring both the potential and the output of

their higher education and research, development and innovation systems (Kwiek, 2011, 2013a). Therefore, higher education can expect to be under ever more national and international scrutiny. The traditional post-Second World War rationale for allocating resources to universities has been shifting to a 'competitive approach' to university behavior and funding (Geuna, 1999). Higher education and academic research have been exposed to market rules.

1.2.1 The market perspective and increasing financial austerity

The growing relevance of the market perspective in, and increasing financial austerity for, all public services, accompanied by the growing competition in all public expenditures, both services and infrastructure, is strengthened by several factors. They include globalization and the internationalization processes, the recent financial crisis, as well as changing demographics and their implications for social and public expenditures. European higher education institutions may be responding to increasingly unfriendly and cross-sectorally competitive financial settings by either cost-side or revenue-side solutions (Johnstone, 2006). A more probable institutional response to possibly worsening financial environments in which higher education institutions will operate is through revenue-side solutions: seeking new sources of income, largely nonstate, noncore, and nontraditional to most European systems, 'external income generation' leading to more 'earned income', as Gareth Williams termed it in *Changing Patterns of Finance in Higher Education* with reference to British universities already two decades ago (Williams, 1992, pp. 39–50; also see Kwiek, 2008; Kwiek, 2012b; Shattock, 2009).

New sources of income may thus include various forms of academic entrepreneurialism in research such as consulting, contracts with industry, research-based short-term courses, and so on, and various forms and levels of cost-sharing in teaching including tuition fees at any or all study levels from undergraduate to graduate to postgraduate studies, depending on national academic traditions, as well as systems of incentives for institutions and for entrepreneurial-minded academics and their research groups within institutions. In general, noncore income of academic institutions includes six items: gifts, investments, research grants, research contracts, consultancy, and student fees (Williams, 1992, p. 39). What also counts, and

determines the level of cross-country variations in Europe, is the relative scale of current underfunding in higher education. Most underfunded systems, such as, for instance, some systems in Central and Eastern Europe, may be more willing to accept new funding patterns than are Western European systems with traditionally more lavish state funding. 'Academic entrepreneurialism' and various forms of 'third mission activities' seem to have attracted ever more policy attention at both the national and EU levels in the last few years (Kwiek, 2013a).

Higher education in general, and top research-intensive universities in particular, as opposed to healthcare and pensions sectors, are perceived by European societies as being able to generate their own additional income through, for example, various forms of entrepreneurialism and third-mission activities or cost-sharing mechanisms where fees are legally possible. Ironically, the more financially successful public entrepreneurial universities are today, the bigger the chances that their financial self-reliance will become an expectation in the future; universities may actually be 'punished' for their current ability to cope in hard times. Along with the efforts to introduce market mechanisms such as multi-pillar schemes instead of pay-as-you-go ones in pension systems and privatized systems based on additional, private, individual insurance policies in healthcare systems, especially but not exclusively in European transition economies, the most far-reaching consequences of this marketization and privatization trend can be expected for public funding for higher education and research. As William Zumeta stressed in a US context a decade ago, 'unlike most of the other state budget components, higher education has other substantial sources of funds that policy-makers feel can be tapped if institutions need to cope with deep budget cuts' (Zumeta, 2004, p. 85).

Privatization and marketization processes can change the very nature of educational institutions, apart from having a direct impact on their financial situation. Williams (2003, p. 6) asked in the context of 'enterprising universities' emergent in Anglo-Saxon countries at the end of last century: 'when does a new stimulant become so powerful, or so addictive, that the organism itself changes its nature? If it does, is the change evolution or decay' and to what extent, is 'an enterprising "operational mode" beginning to dictate the value-driven "normative mode" of universities?' Changes in funding

modes may thus introduce changes in core university values, and, therefore, the increasing cross-sectorial competition for resources is more than merely a change in Becher and Kogan's (1992) 'operational mode' of universities.

1.3 New university-society contracts

Europe can thus expect, as a mostly new policy solution to the current problem of the underfunding of European universities, a growing policy emphasis on a more substantial inflow of private research funds from the business sector and of more private teaching funds from student fees. With different speeds of change in different national systems, and with a possibility that more radical changes can be expected in more underfunded systems and less radical changes in more affluent systems.

In policy terms, the European Commission is becoming much more positive toward student fees than ever before (Aghion, 2008, p. 226). Trends in European demographics, especially the aging of European societies, will directly affect the functioning of the welfare state in general, but only indirectly, through the growing pressures on all public expenditures in general, will it affect universities. Each shift in priorities toward social assistance can automatically bring about negative financial consequences for public universities due to a limited pool of funds that can be allocated to public services as a whole.

There is a clear paradox: higher education is seen as more important than ever before in terms of the competitiveness between nations, but though the importance of knowledge in our societies is greater than ever, at the same time, along with the pressures to reform current welfare state systems, the capacity, and often the willingness, of national governments to finance higher education and academic research and development is weaker than in previous decades. Knowledge, although not basic knowledge, to use a somewhat outdated distinction between basic and applied research, is increasingly produced by the business sector rather than by higher education and increasingly funded by the business sector. In the OECD (Organisation for Economic Cooperation and Development) area, the share of research and development performed by the business sector in total research and development performed has been

increasing steadily over the past two decades. The tension between the general attitude of governments and populations, with education perceived as perhaps the primary asset of the individual, on the one hand, and the inability or unwillingness of the very same governments to increase current levels of public funding for higher education and research in public universities is stronger than ever.

1.3.1 Social, political, and economic contexts

The concentration of research funding in an ever smaller number of top institutions is observed throughout European higher education and research systems; there are gainers and losers of these processes of the allocation of financial resources, in accordance with Robert K. Merton's 'Mathew effect' in science referred to individual academics ('the richer get richer at a rate that makes the poor relatively poorer', Merton, 1973, p. 457). At the same time, there seem to be limits to growth in science after a long period of continuous expansion, discussed for the first time by Ziman (1994) in the context of a 'dynamic steady state'.

Following transformations of other public sector institutions, universities in Europe, traditionally publicly funded and traditionally specializing in both teaching and research, may soon be under powerful pressures to review their missions in view of permanently coping with financial austerity in all public sector services (Pierson, 2001). Universities may soon be under pressures to compete more fiercely for financial resources with other public services that are also heavily reliant on the public purse. Public priorities are changing throughout the world, and education policy depends heavily on the 'allocation of values' (Rizvi and Lingard, 2010, p. 71), and new funding patterns and funding mechanisms can be considered. Central Europe, Poland included, has long been experimenting with various forms of privatization of all public services (Kwiek, 2010; Kwiek, 2012a). Also, the rationale for European university research funding has been changing throughout the last two decades (Geuna, 2001).

Public priorities are changing throughout the world. What is crucial for universities is the process of aging of Europe because in the next few decades the majority of electorates will be either in advanced working age or retired. Priorities of older generations of Europeans in emergent new, possibly increasingly commercialized, pension systems and increasingly privatized healthcare systems,

may look radically different from the priorities historically adopted in contemporary societies in the past half-century. In the context of human capital theories and the research on private benefits from higher education, the channeling of more public funds away from higher education systems and filling the gap in university incomes through cost-sharing in favor of healthcare systems and pension schemes is more probable than ever before. Graying European societies in the coming decades do not have to continue locating higher education institutions high on their lists of publicly funded priorities.

1.3.2 Financial pressures, ideological pressures

Western liberal democracies are reforming or trying to reform all their welfare state institutions, and the modern university, as a significant claimant to public resources, is a significant part of the public sector. If we take an extended view of the welfare state, then higher education and its contribution to the reduction of economic inequality and lowering economic insecurity through education and skills is a very expensive component of the modern welfare state. Across Europe, the costs of both teaching and research are escalating, as are the costs of maintaining advanced healthcare systems (Rothgang et al., 2010) and pension systems for aging European populations. Now all segments of the welfare state are under new, mostly hitherto unheard of, financial pressures. Tax-based European higher education systems are not an exception; the difference is that they can still rely on an increasing share of private funding through either introduced or increased fees. Europe is the major counter-example to the global trend in which the costs of higher education credentials are covered predominantly by graduates rather than by the state. This tradition of tax-funded higher education is especially strong in post-communist countries where there were no fees at all until 1989. How to publicly fund not only mass but also universal higher education, with gross enrollment rates exceeding 50 percent, is a major policy issue across the region. Poland, with a universal and contracting higher education system due to a heavily declining population, is a potential trend-setter for smaller systems in the region, with still no universal fees at the moment, limited chances of their introduction in the coming years, and possibly with increasing de-privatization processes driven by declining demographics (Kwiek, 2014).

In addition to financial pressures, there are also ideological pressures that come mainly from global financial institutions and international organizations involved in the analysis of broader public sector services. They tend to disseminate the view, in different countries to different degrees, that the public sector in general is less efficient than the private sector; that its maintenance costs exceed the social benefits brought by it; and, finally, that it deserves less unconditional social trust and less unconditional public funding. This lack of confidence in the public sector in general is observed in studies on social trust in the representatives of that sector, in the research on the willingness of European electorates to raise the level of personal taxation, and in the research on the level of satisfaction with public services provided by the public sector. So, alongside undoubtedly financial pressures, universities have to simultaneously deal with the effects of changes in the beliefs of European electorates, of key importance for changes in the positions of political parties. As Fritz W. Scharpf and Vivien A. Schmidt (2000) summarized over a decade ago, their studies on the welfare state subjected to the pressures of economic competitiveness, political choice still plays the key role in any welfare state transformations:

Welfare states remain internationally viable only if their systems of taxation and regulation do not reduce the competitiveness of their economies in open product and capital markets. Within these economic constraints, however, the overall size of the welfare state and the extent of redistribution remain a matter of political choice. (Scharpf and Schmidt, 2000, p. 336)

1.4 Public funding for higher education and increasing intergenerational conflicts

The negative impact on public subsidies for higher education may thus also be exerted by demographic processes such as the increasing dependence rate in the economy, the aging of European societies, the growing population in retirement and, finally, perhaps, changes in political thinking associated with the growing political role of the elderly because the electorates in European societies will be graying steadily. The different age structure of the electorate in the coming

decades could in a natural way downgrade any other social priorities and upgrade pensions and healthcare, leaving traditional higher education with increasingly fewer public subsidies and ever more private funding. As Dumas and Turner (2009) argue in their study of aging in postindustrial societies and intergenerational conflicts, the elderly can use their political influence 'to steer resources toward pensions and health care and away from educational investments for younger generations. As age conflict increases, the possibilities for age integration decline'. While general education does not seem to be an issue today, higher education can certainly be an issue. Cost-sharing ideas in higher education policy can therefore become more popular than ever before, for both financial and ideological reasons (see Johnstone, 2006; Johnstone and Marcucci, 2007, and these ideas as initially formulated in Johnstone, 1986).

In the rapidly evolving contemporary world, one cannot exclude in principle any future developments. Effects of the evolution of social priorities may be different in different countries, but in European transition countries they may mean the introduction of cost-sharing in public higher education, following the example of England in Europe and, above all, that of non-European Anglo-Saxon countries, with United States, New Zealand, and Australia at the forefront. One can therefore expect a gradual introduction of universal, perhaps deferred rather than upfront, tuition fees and sophisticated student loan and scholarships systems in the next decade, despite still existing constitutional limitations throughout Central and Eastern Europe. The rationales behind universal fees are both financial and ideological, and they have to refer to increasing, or decreasing, equitable access to higher education (Kwiek, 2013b).

1.4.1 Constraints on public revenues

Thus, although it is possible to argue for substantial increases in the share of gross domestic product of public funds spent on national public higher education systems using the 'knowledge economy' and 'human capital upgrading' arguments, in practice it has not worked in any of the major OECD countries or European transition countries so far. According to the recent data collected by CHEPS (Center for Higher Education Policy Studies at Twente University, Enschede), in the years 1995–2008, the share of basic state funding in university funding declined almost everywhere, its average share dropped

significantly in 31 European countries, to the level of 67 percent, while the share of university revenues from tuition fees and research contracts and grants raised in the same period by 50 percent (CHEPS, 2010). Higher levels of public funding for higher education requires raising taxes to improve the standards of welfare service provision; even though transition countries would like to have better public universities, their citizens do not seem to be willing to pay higher taxes for this reason. This is in contrast to the generally supportive attitude toward welfare. All Central European economies except Poland introduced a relatively low flat rate of personal income in the past few years. Most OECD countries are currently experiencing a shrinking tax base; as Pierre Pestieau put it, 'the share of regular, steady salaried labor is declining in a large number of countries, and thus the share of payroll tax base in the GDP is shrinking' (Pestieau, 2006, p. 35). The constraints on public revenues are combined with growing social needs under the pressures of economic globalization and the passage to post-industrial societies. The synopsis of external and internal challenges to mature welfare states as well as to emerging welfare states in Central and Eastern Europe can be the following:

'The shift to a predominantly service economy and economic globalization entails tighter constraints on public revenues, while societal modernization and changes in the economic structure produce mounting social needs, new risk patterns, and new priorities for social policy intervention, with education and social service provision on top of the list. Moreover, shrinking public revenues and rising pressures on public expenditure constitute a situation of what Paul Pierson calls permanent austerity'', which must be managed by nation-states whose sovereignty and autonomy have declined significantly in the wake of globalization and European integration, without international authorities able to pick up the slack (Castles et al., 2010, p. 14).

The option of more public funding for higher education or for academic research and development in Europe in the future is explicitly questioned even by the European Commission, which suggests substantially more private funding, both for teaching through fees and for research from private companies. In general terms, ongoing, and envisaged for the future, reformulations of the welfare state in European economies, no matter whether related only to globalization and economic integration, or only to domestic national factors

related to demographic change, or finally related to both, at the moment do not provide promising grounds for policies treating higher education as public investment.

This may have fundamental effects on both students and academics; fee-paying students increasingly view themselves as customers of services provided by academics (Molesworth et al., 2011) and as clients of university services; there may also be more managerialism and stronger business orientation in academic units less reliant on core state public subsidies, more market ideology, and sets of practices drawn from the world of business, more reliance on market forces and noncore nonstate, 'earned' rather than 'received', income, and the intensification of work of the increasingly contracted rather than tenured academic staff, and so on. Higher education is increasingly viewed as public cost/public burden and as a private, rather than public, and individual, rather than collective, good. But welfare transfers still, under strong globalization-related pressures, remain a political choice (Gizelis, 2005, p. 159) and the role of electorates in democratic systems is fundamental in determining the depth and character of welfare state restructuring (Pestieau, 2006, p. 30; Swank, 2001, p. 198; Swank, 2010); electorates still have 'welfare attitudes' that might determine the future level of public support for welfare (Oorschot and Meulman, 2012). In a similar vein, also attitudes shared by European electorates are crucial for further strong public subsidization of higher education systems.

While one can predict that, for this reason, reforming financial foundations of the pension and healthcare sectors, for example, toward various forms of privatization and toward individuals sharing bigger responsibility, including financial responsibility, may be weaker than expected, reforming the financial foundations of higher education might be stronger than is generally predicted today. While in the rich OECD economies this could mean a lack of further growth of currently high state subsidies, in the majority of relatively poorer economies in Central and Eastern Europe, this may mean no increases in currently low state subsidies, hitting especially the functioning of public research universities.

1.5 Final thoughts

How could public funding for higher education as part of expenditures within welfare states undergoing thorough restructuring in

Europe be seen as an investment rather than a cost, and why should it be seen that way? Paradoxically, the unwillingness or inability of the state to increase the level of public funding for higher education is accompanied by a clear realization that, in the new global era, higher education is more important for social and economic development than ever before.

A good argument for increasing public funding for the higher education sector, based on human capital theories, is that investments in higher education are long-term investments in skills and competences of the workforce; but in the logic of the cycles of elections, this means that their weight for most political parties in European systems decreases rather than increases over time. Long-term investments are much less tempting to political parties and for electorates than are short-term investments. This short-termism in selecting priorities for public spending may have a far-reaching negative impact on increases in public subsidization of higher education institutions. The competition between different claimants to public resources has become fiercer since wholesale reforms of the public sector in general started some two or three decades ago. Each component of the public sector is expected to show its advantage over other competitors, and all public sector components need to show their advantage over such other competitors as spending on general infrastructure, the military, or law and order. New Public Management has been introducing corporate, competition-focused styles of thinking into traditionally public, noncompetitive areas, with unpredictable implications for future levels of public subsidization of higher education.

New ideas about the state indirectly give life to new ideas about universities, and especially their governance and funding, which in Continental Europe have traditionally been heavily dependent on the public purse in the postwar period. One can say briefly about European welfare states: things will never be the same (resulting from 'a long good-bye to Bismarck', Palier, 2010). Presumably, things will never be the same in European universities, with all caveats: keeping in mind the multidimensionality of ongoing transformations, their powerful embodiment in cultural traditions of particular nation states, their strong dependence on the pace of changes across the whole public sector, and long-term financial projections for this sector.

However, never in their history have European universities been so well-funded. They have never been so closely linked to the economy and been such an important economic player, investor, and

large-scale employer. Never in their history have European universities been analyzed in so much detail and compared, on national, regional, and global, scales. Never before have they also raised such a sustained public interest, often combined with sustained public criticism. Consequently, the academic community must unconditionally believe that, despite the current turmoil, the university as a highly resilient and adaptive institution can be even stronger in the future without losing its traditional mission. But, on the other hand, the academic community should not believe that, in the face of a radically changing social world and its public and private institutional arrangements, only one institution, the European university in its different national embodiments, will remain merely marginally reformed.

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Notes

1. See especially Martin and Etkowitz (2000, pp. 6–8) on the ‘changing social contract’ between science and the university, and between society and the state; Guston (2000) and Guston and Keniston (1994) on the emergent ‘fragile contract’ with science in the context of Vannevar Bush’s *Science: the Endless Frontier*; Ziman (1994) on science under ‘steady state conditions’; and Kwiek (2005, 2006) on the changing social contract linking universities, nation-states, and welfare states.
2. One of the most promising avenues in recent comparative research on the evolution of the European welfare state is through conceptual tools provided by historical institutionalism, particularly through the concept of ‘gradual transformative change’ developed by Streeck, Thelen, and Mahoney (Streeck and Thelen eds, 2005; Mahoney and Thelen eds, 2010). There are three recent large-scale comparative studies based on this concept: *A Long Goodbye to Bismarck? The Politics of Welfare Reforms in Continental Europe* (Palier ed., 2010), *The Politics of Welfare State Reform in Continental Europe: Modernization in Hard Times* (Häusermann, 2010), and *Post-Communist Welfare Pathways: Theorizing Social Policy Transformations in Central and Eastern Europe* (Cerami and Vanhuyse eds, 2009). For direct applications, see especially Palier (2010 ed., pp. 21–34), Häusermann (2010, pp. 8–12), and Cerami and Vanhuyse eds (2009, pp. 36–44). The same conceptual tools can be used to comparatively study the gradual change in European higher education.

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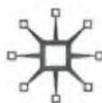
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Summary: "The funding of higher education is under stress. On the one hand, the benefits of universities for economic prosperity and growth are increasing as universities graduate more students; undertake a greater share of scientific research; and, through cooperation with business, stimulate the technological advance of the private sector. At the same time, government funding of higher education is stagnating or even falling in many countries. The book brings together the views of an international group of experts on the financing of higher education. They examine funding trends in Asia, Europe and the United States and present practical proposals for the reform of university funding and operations and examples of successful ways of building links between industry and universities that can be mutually beneficial and supplement government funding of higher education"— Provided by publisher.

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