Chapter 14
Sitting in the Middle: Tensions and Dynamics of Research in UASs

Benedetto Lepori and Svein Kyvik

Introduction

As shown in Chapter 1, most European countries now have a binary higher education system consisting of a university sector and a sector constituted predominantly by multi-faculty institutions offering primarily professional and vocational study programmes at a bachelor's level. While the universities have a very long tradition for undertaking research and research training, and the knowledge about the organisation and outcome of these tasks in these institutions is fairly good, the role of research within polytechnic institutions has largely been bypassed in the international literature on higher education. The purpose of this book accordingly has been to provide information on the research mission of higher education institutions outside the universities in a selection of European countries, to examine why and how research has become a task for these institutions and to discuss the challenges facing governments and polytechnics in their aim to enhance research activity in this part of the educational system.

A first observation is that this issue is high on the political agenda in all considered countries; thus, in all of them national policies state that universities of applied sciences (UASs) should have the right to perform research and that, without some research, these are not rightly part of higher education. Although most vocationally oriented institutions were created without a research mission, this is now an integral part of their being. In countries like Finland and Switzerland, which established a higher education sector outside the university sector more recently, the UASs received from the onset an explicit research mandate.

A second observation is that there are large differences between European countries and between institutions within countries to the extent that the UASs have developed research as an important part of their tasks alongside teaching. Norway, Finland and Switzerland have a much stronger developed research base in the UAS sector than Belgium and The Netherlands, not to mention the Czech Republic.

B. Lepori (✉)
Faculty of Economics, Centre for Organizational Research, University of Lugano, Lugano, Switzerland
e-mail: blepori@unisi.ch

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A third observation is that there are differences between programmes or domains in research emphasis. In most of the countries, engineering and technology programmes have a much stronger research orientation than programmes in nursing, teacher training, social work, art and design, etc. This pattern, however, does not apply to all countries; Norway is probably the country which differs most from the overall picture, with a much more even distribution of research resources across the various programmes.

A fourth observation is that relatively few UAS staff members are active in research. Even in Norway, where the majority of staff members undertake some kind of research, approximately 10% of the staff account for half of all scientific and scholarly publications.

Both the national case studies and the thematic chapters demonstrate that it is one thing to develop (or to get acknowledged) a generic status as a research institution, but another thing to truly develop research in a context where universities and public research organisations have long-established research traditions. Thus, reports from polytechnic institutions are full of complaints about lack of financial resources, shortage of human resources and discriminating behaviour by research allocation bodies which impede UASs from taking on their full role as research institutions. Beyond the political nature of such complaints, they express largely the tensions to which UASs themselves are exposed from the recognition of a research mandate.

These include questions related to the balance between education and research, qualifications of staff and the internal organisation of research activities. The basic underlying issue concerns, however, the positioning of the UAS in the whole higher education system, once the simple divide between teaching-only and research institutions has been removed. As we shall come back to, this issue is closely related to the structuring of the higher education system and to the balance between functional specialisation and vertical stratification as organising principles of the system (Bleiklie, 2008). Thus, the different approaches in the examined countries concerning the development of research in UASs largely reflect the relative emphasis of these principles in each national political and cultural context.

This concluding chapter is organised in three main sections. First, we will present an overview of the main findings of the book, focusing especially on the differences between countries, but also between programmes and individual institutions. Second, we will analyse the driving forces in the development of research by looking back and discussing the model presented in the introduction. Finally, we will frame research in the overall evolution of the higher education system in a comparative perspective and, on this basis, discuss the main open issues and critical choices which are likely to shape the future of research in these institutions.

Where Do We Stand Now? A Status of Research in UASs

When looking at the data provided in some of the chapters, as well as at some qualitative judgements, it seems that the euphoria about research in UASs should be somewhat dampened. In the considered countries, UASs are at best a minor actor

Table 14.1 UAS R&D expenditures and public R&D expenditures

	Belgium	Germany	Ireland	The Netherlands	Finland	Norway	Switzerland
Year	2005	2005	2006	2005	2004	2007	2007
R&D exp. € million	57.7	674	33	82	100	150	217
% of R&D exp. in the public sector[a]	3%	4.1%	4.8%	2.3%	6.5%	7.2%	9.5%
% funding from core budget	20%	45%	0%	19%	25%	79%	62%

[a]Sum of the expenditures in the State, Higher Education and non-profit sector.
Source: Eurostat and country chapters for UAS data. No data available on Czech Republic, but R&D expenditures are probably very low.

in the public research system and in many of them a marginal one. Thus, UASs account at best for 12% of R&D expenditures in higher education (Norway) and for less than 10% of total research expenditures in the public sector (including Public Research Organisations) in all the considered countries (see Table 14.1). These figures should be compared with a share of first-year enrolment in higher education ranging between 70% in The Netherlands and 30% in Germany (see Chapter 1). A look at the share of R&D of total expenditures in higher education provides a similar picture: the little data available on UASs provides figures slightly above 10% for the most developed countries and even lower in the other countries, compared to typical figures of between 40 and 50% in universities. Clearly, despite the research mandate, the share and the priority-setting between research and education differ widely between the two sectors and, as we shall discuss later, this has profound implications both for the development of research in UASs and for the relationship between the two sectors.

Moreover, all indicators show that, with a few exceptions, UASs are weak competitors with universities for all types of funding, including those which should be of a better fit for them, like funding from innovation agencies and private contracts (see Chapter 4). In these respects, there are only a few exceptions like Swiss UASs, which are now the main recipients of funding from the Swiss innovation agency.

The same holds true for research outputs: information presented in national chapters shows that UAS staff have relatively few publications compared to university staff, and the number of technological products like patents is also much lower. Of course, one has to acknowledge the methodological difficulties of measuring the output of applied research and that most existing measurement schemes focus on scholarly publications (Deen & Vossensteyn, 2006), but it is unlikely that the picture would change significantly using other indicators.

These remarks are not to deny the symbolic and cultural value of the recognition of a research mandate, but to explain the amount of tensions implicated by it in the face of a largely different reality and to recognise the different types of strategies actors can mobilise to cope with it. Those shown by the national chapters include the forced development of research capacity (Switzerland), attempts at upgrading their status by the accreditation as universities (Ireland, Norway), the building of

partnerships with universities (Belgium), or more mimetic behaviours like broadening the perimeter of the institution (Czech Republic), or of what is considered as research (a pattern emerging in most countries).

Moreover, the national cases indicate that research activities in UASs have undergone a significant growth over the last decade. This development can, however, be interpreted in different ways. Thus, some might argue that the continuation of this process is likely to transform some units of UASs into strong research actors in a few years (see, for example, Verhoeven, Chapter 6). Others could interpret it as developing something from almost no research and that the real issues and limitations – for example, in terms of funding and human resources, but also of competition with universities – are likely to emerge once some threshold has been reached.

Yet, this helicopter picture hides in reality profound differences in the extent and function of research between countries, institutions, programmes and individuals, which are much larger than those we find in universities (at least outside strongly stratified systems like in the United States or in the UK). In the following section, we therefore will look more in-depth into the internal diversity in the UAS sector, because this issue is closely linked to the discussion on specialisation and integration that we will develop in the last part of this chapter.

National Differences in Models and Functions of Research in UASs

In this survey, we can broadly distinguish between three groups of countries, those where research activities are already well-established and considered as an important part of UAS activities (Finland, Norway, Switzerland), those which are still largely in an experimental phase (Belgium, the Czech Republic, the Netherlands) and those which come in a middle position (Ireland, Germany).

In the first group, which includes Finland, Norway and Switzerland, not only the relative size of research expenditures is higher than in the rest of the countries considered, but research has become institutionalised as part of institutional strategies, and UASs are explicitly recognised as research actors at a national level (Norway and Switzerland being the clearest examples). Moreover, some basic features of research in these institutions and of their positioning in respect to universities can be identified (see the discussion below). Official recognition of research functions implies also that rather detailed data on R&D activities of UASs and their funding sources are routinely produced in the higher education statistics, like in Finland (data compiled by Statistics Finland), in Switzerland (data from the Swiss Federal Statistical Office) and in Norway (data from NIFU STEP). This partly applies to Ireland and Germany, while in Belgium, the Netherlands and the Czech Republic, the data is much more incomplete.

In the latter group of countries, the research function of UASs is on the political agenda, and there is no longer a formal exclusion of these institutions from research activities, but the extent of research is much lower and confined to a relatively small segment of the staff.

It is important to recognise that UASs in the three groups of countries are faced with rather different issues. Thus, while in the latter group, the main issue is to build from scratch some research capacity, institutions in the first group of countries increasingly face issues of consolidation and of priority-setting, once the volume of research has exceeded a certain threshold. These include the balance between regional commitments and participation in national and international research networks (see Chapter 2), the relationship between education and research (see Chapter 3), the development of research profiles and finding resources in the core budget for research (see Chapter 4), and, finally, the systematic build-up of research competence (see Chapter 5).

However, differences between countries cannot just be reduced to evolutionary stages, depending on when UASs started to develop research and on the level of support they got from the state. In addition, structural differences concerning the extent and the function of research in UASs are emerging. At least two basic models seem to emerge, which can be represented by the extreme cases of Norway on the one side and of Switzerland and Finland on the other side.

In the first model, the rationale for developing research is mostly sought in the improvement of the quality of professional education through enhanced research qualifications of teachers. Thus, research and research resources should be spread evenly among the programmes in the institutions, either as a part of the core budget (Norway) or as specific allotment for curricula improvement (Belgium). Actually, the official policy goals for UAS research in these countries also include regional relevance and knowledge transfer, but the purpose of improving the quality of professional education seems to get more attention.

In the second model, the main policy rationale for developing research in UASs has to be sought in the support to the regional economy and the improvement of knowledge transfer, especially towards small and medium enterprises. Being more customer-driven, research should be essentially funded through external contracts or incentive programmes for cooperation with private companies, a distinguishing feature of the Finnish and Swiss system. Accordingly, some concentration of research is required to achieve critical mass; the Dutch *lectorate* programme being a good example of this approach. Of course, there is some idea that, once research units have been established, research will spread throughout the whole institution and benefit also education, but this is largely considered a second step in the process.

These two models have different implications for the positioning of UASs in the whole higher education system, and this might lead to largely different configurations of the whole system (see the concluding section of this chapter).

A Very Differentiated Internal Landscape

A discussion in terms of national models can be somewhat incorrect since most national case studies show a strong internal differentiation in the non-university sector itself concerning the development of research. Moreover, the prevailing line of differentiation differs across countries – respectively between institutions, between

programmes and between individuals – and this is likely to have wide-ranging implications for the future structure of the system.

Thus, in some countries we witness strong distinctions between individual UASs, with some of them not only having a much higher share of research activities (strong concentration in a few UASs is shown, for example, in Belgium and Ireland), but some UASs also strive to achieve a status nearer to universities and distinct from the rest of the UAS sector. Typical cases are the Dublin Institute of Technology, as well as the two Norwegian university colleges that got the accreditation to universities. In countries like Finland, Netherlands and Switzerland there is a strong sense of collective development of UAS specific research activities according to the notion 'equal but different' to universities. In these countries, UAS rectors conferences took an active role in developing joint objectives and strategies for research, or even took a role in allocating research funding (like the HBO-Raad in the Netherlands for the *lectorate* programme). Of course, the extent of research is likely to be different among individual UASs, but what matters here is this collective understanding of their research mission, which is likely to have profound influences on the resulting system configuration.

A second, much less investigated distinction is between programme sectors. The little available data displays, for some of the countries, a strong concentration of the research volume in engineering and technology; this is the case in Belgium and Germany, where engineering accounts for half of the research volume, and for Switzerland, where the available data shows a very strong concentration in technological sectors and extreme differences in the share of R&D expenditures by sectors, from 25% in technology to less than 5% in some domains of social sciences. On the contrary, in Norway half of the R&D expenditures are in the social sciences domain, which account for a large share of students, an expected outcome given the stronger link between education and research. The prevalence of engineering and technology in the former countries likely reflects the orientation towards application and transfer to SMEs of research in UASs (see Chapter 2). This internal differentiation raises the question to what extent UASs might be able to develop a single concept and strategy of research when faced with selective requests from their environment. For instance, the main Swiss economic association (*Economiesuisse*) clearly stated that research in Swiss UASs should be developed only in technical sectors, leaving social sciences and humanities as teaching-only domains. Since mergers and reorganizations have been more common in the non-university sector than in the university sector, one cannot exclude that these differences will lead to new institutional configurations, for example, splitting research-strong departments from the rest of these institutions.

The third differentiation concerns organisational integration of research activities and their distribution between individual staff members. All the available information shows that research activities are strongly concentrated in a few people receiving most of the third-party funding. This pattern is expected since research competences are also concentrated in the few people with past research experience, as witnessed by the overall low share of teachers with a PhD degree, while in all countries UASs inherit a large stock of teachers with little or no research

competence. This concentration policy has been explicitly reinforced through public policies, like in the case of the Dutch *lectorates*. The central issue concerns, however, the future development path from this starting situation; will this lead to a dual career structure, with research professors and senior research staff concentrated in research units alongside a large number of lecturers (with no research competence)? Or will research activities progressively diffuse throughout the whole personnel and organisational structure?

At the organisational level, UASs seem to have taken different routes in the integration of research: the extreme case is in UASs where most research activities are concentrated in a single centre (see the example of Lahti UAS in Finland). In many countries the approach of creating distinct research units inside institutions or departments prevails (Switzerland being a typical case), while in other countries this varies greatly between individual UASs.

Of course, one can find good arguments for both strategies. Cumulative effects in research are likely to push in the first direction, since the units with research traditions will be able to attract more qualified personnel and third-party funding; at the same time, normative pressures are more likely to push towards diffusion of research, as well as to avoid dual internal careers and to limit internal differences among staff. It is likely that the balance will critically depend not only on national environments, for example, the degree of competitiveness for research funding where customer-driven models will generate stronger internal differentiation, but also on the strength of the UASs themselves as strategic actors able to promote a relatively unitary research culture throughout the institution.

Driving Forces and Important Actors

In the introduction of this book, we put forward a simple model to explain the development of research in UASs as the interaction between the internal dynamics of the institutions themselves and four types of external actors: state authorities, supranational organisations, societal stakeholders and the university sector. Now, it is relevant to look more in-depth at the role of these actors, as well as to differences between countries.

Integration Through International Standards: Bologna and Beyond

International organisations seem to have played a rather limited role in the development of research in the UAS sector. However, in most of the countries analysed in this book, the OECD undertook in the recent years reviews of the whole tertiary education sector, or specific reviews of the non-university sector (like in Finland; OECD, 2003). According to most national chapters, in most cases OECD experts clearly supported the binary policy and the need of keeping a distinction between

the two sectors, but at the same time indicated the importance of research in UASs for the development of a knowledge society and pointed to the gap between official declarations and ambitions and the actual state of research (see the cases of Finland and Ireland).

A much stronger driving force has been the harmonisation of degrees through the introduction of the so-called Bologna model (de Weert, 2006; Witte, van der Wende, & Huisman, 2008). In most of the countries considered in this book, UASs have switched to a 3-year bachelor diploma and have obtained the right to offer master studies; although to a limited extent.

The Bologna Process is impacting research in UASs in two directions: First, the harmonisation of degrees is pushing towards integration of the two sectors and, thus, to some extent, reinforces the rights of UASs to develop their own research. Second, offering master degrees puts higher requirements on the competences of the teachers and, in many cases, requires some research capacity, either because of the needed competences to teach some subjects or because of official regulations and accreditation requirements (like in Belgium, the Czech Republic, Norway and Switzerland).

Moreover, diffusion of practices between countries seems to have played an important role in the development of research. Visits to other countries to look at their strategies in the development of research seem to have taken place rather frequently, while recently the European Commission in the Lifelong Learning Programme has funded a network on professional education and research at the UASs coordinated by the Dutch HBO-Raad (de Weert & Soo, 2009). Beyond their practical value, it seems that these exchanges are meant to reinforce the identity and collective sense-making of the UAS sector when faced at a national level with a much stronger university sector in terms of research.

The State as a Driving Force for Research in UASs

The national chapters provide an unequivocal result in this respect; in many countries, the state has been a major actor in promoting research in UASs and defining its directions. The analysis of funding models offers some interesting clues to look at national variations in this respect; thus, two categories of countries emerge (see Chapter 4).

The first category is constituted by countries where the state took a strong proactive role, not only providing most of resources of research through specific schemes, but also used these measures to orient research activities in a specific direction. We include in this category the Netherlands with the *lector* programme; Switzerland, where the research mandate has been attributed to UASs by their founding law, and active organisational and funding measures have been introduced from the beginning; and Finland with the strong focus on the regional functions of UASs. Belgium could be considered as sitting in an intermediate position between this group and the second one.

In terms of the policy rationale and cultural norms, it seems that in these countries a coherent rationale for a specific role of UASs in research has been elaborated jointly by the state, by the UAS sector itself and by societal stakeholders (especially representatives of the private sector), which are able to promote a coherent action between these actors, especially between ministries, funding agencies, UAS associations and the UASs themselves. This coalition of values and interests seems to be sufficiently strong to build an alternative to the academic values and support a specific representation of research in UASs, as is evident from the case of the Netherlands and, especially, Switzerland.

The second category is constituted by countries where the development of research was promoted internally to the UASs themselves through the reallocation of parts of the core budget and, then, official policy followed by recognising explicitly the research mission and the right of using the core budget for research (Norway), but without developing a specific policy and active measure to develop research in UASs (the Czech Republic, Germany and Ireland).

In these countries, the rationale for developing research in UASs is weaker and exposes much more these institutions to the normative pressure of the academic sector. As a result, most policy measures also resulted in granting to UASs some of the rights and conditions of universities, for example, the same personnel status, the right to use core funding for research and the right to award doctorates and/or to become accredited as universities when fulfilling some conditions (this is the case in Norway and the Czech Republic, while also in Ireland some UASs have been granted the right to award doctorates). Significantly, the national chapters explicitly signal that in some of these countries the lack of tailored policies addressing the specific conditions of UASs is a major issue (see the Irish and Czech case), a remark which emerged also for the UK polytechnics where some observers argued that promoting a specific research profile would have been a better strategy than just integrating them in the university sector (Pratt, 1997).

Unfortunately, the national case studies provide little information on the forces behind these different policies. At least in the Swiss case, a decisive factor was the perceived shortcomings of the Swiss technological and innovation policy, which was traditionally built on a clear functional separation between public and private research, meeting the requirements of the research-intensive sectors like the pharmaceutical industry, but not at the same level those of small and medium enterprises and machine industry. This suggests that societal stakeholders can be decisive actors in promoting the development of a specific rationale for research in UASs and their role largely depends on the (perceived) ability of the university sector to meet their needs. However, this issue would clearly deserve more careful comparative analysis.

Coping with the Big Brother: The Relationships with Universities

It is more than obvious that to develop their research activities UASs need also to define their position and relationship with the university sector. The issue has both practical aspects – for example, competing on research funding, organising research

careers, etc. – and institutional aspects, thus defining the specific profile and role of UASs and legitimating the emergence of a new research actor and the request for public resources for it. Moreover, it involves directly the two sectors, but also norms and actions of other actors like the state or private enterprises which might legitimate and support different strategies.

Many of these issues have been already discussed in the previous sections. Summarising, we can distinguish between three different models; (a) distinction and complementary roles, (b) integration, and (c) partnership.

Distinction and Complementary Roles

A specific rationale and model for research in UASs is elaborated and accepted by the institutions themselves and by the social actors. This includes a definition of research in UASs as distinct from universities – based on notions like applied research and knowledge transfer, and on policy rationales like Mode 2 research and 'triple helix', as well as on an explicit or implicit criticism of universities as an 'ivory tower' disconnected from economic and social reality. This political discourse largely underpins the development of research in UASs, but it makes a strong difference to which extent social actors in each country endorse their criticism to their own universities.

This model has also relevant strategic and practical implications. First, to become like universities is not an explicit goal and even the right to award doctorates is a rather secondary goal. Also, UASs strive to occupy specific niches and functions in the research system not well covered by universities, like cooperation with SMEs. The availability of these niches depends strongly on contextual factors. Thus, Swiss UASs were strongly favoured by the fact that in this country technological research is concentrated in the two Federal Institutes of Technology which have a much stronger international focus. Finally, there is an effort to develop their own organisational form and career structures, as displayed by the case of Netherlands with the *lectorate* programme and Switzerland – where UASs employ UAS professors with distinct qualifications different from university professors. Since the functions are different, there are no strong reasons to harmonise legal requirements and funding systems, even though there might be a single higher education act, like in the Netherlands.

The strength of this model is to allow UASs to build a specific profile which protects them also from competition from the big brother; Finland and Switzerland are clear success cases in this respect. The weakness is that when the whole higher education system becomes more integrated, different rules might make collaboration more difficult and distort competition (for example, for research funding).

Integration

In this model, university status and research build the reference also for UASs. This is clearly expressed by the request to get the right to award doctorates, the

creation of accreditation mechanisms where UASs can legally become universities upon fulfilling certain requirements (Norway, the Czech Republic) and the set-up of similar career structures and funding mechanisms as universities. Thus the difference between universities and UASs concerning research is a matter of degree – having less trained research personnel, less resources – and not of type. The attraction of the university status is strong enough to compromise the collective identity of UASs, with some of them changing status individually.

In normative terms, while the first model builds on a stylised representation of university research as being directed towards fundamental research and separated from practice, this model is based on a broader vision where the diversity and complexities of the university world are acknowledged – including large areas of professional education and applied research and the impossibility of drawing a clear separation between basic and applied research. While integrated into the university world, this plurality still leaves UASs the opportunity to stress their specific role as focused on regions and professions, however as an alternative to the traditional academic value system rather than in opposition to it.

The national case studies display that in all countries conforming to this model – Norway, Ireland and the Czech Republic – UASs tend to become the little brother of universities, with little chance of achieving a similar share of research (see the Czech case). However, their fate depends largely on the overall governance of higher education. Where public policies strongly support stratification among universities, UASs tend to end in the lower tail with limited possibilities of improvement; like for the UK polytechnics (Stiles, 2000). In countries with more equalitarian approaches, where some competition is introduced but there is still a logic of giving all institutions a chance to become a research university, more mixing between the two groups might occur in the long run.

Partnership

Finally, the Belgian case is very specific in this context since the research strategy of UASs is largely based on the creation of formal partnerships with universities, especially in Flanders through the establishment of associations between UASs and universities. This has been motivated by the government as a policy to help UASs to meet the accreditation criteria for their academic educational stream, but can have wider implications given the imbalance of forces between the partners. Thus, transferring academic curricula and research from UASs to universities and merging parts of UASs into universities could be an outcome (as explicitly stated by the university rectors in the Flemish community).

This approach displays also some implications of a different configuration of public policies. In conditions of strong imbalance, for example, concerning staff competences, if accreditation criteria are applied to activities (programmes or research activities) instead of to institutions, the activities that meet these criteria might be moved to other institutions, thus reinforcing the binary divide.

Conclusion: Between Functional Specialisation and Integration

The analysis in this chapter displays the limitations of the academic drift model in interpreting the development of research in the non-university sector and the need to substitute it with a more refined approach. Academic drift certainly is an adequate description of the aggregate phenomenon, where UASs have strived to acquire some of the basic features of the university sector, especially the right to perform research activities. The two sectors also have become increasingly integrated in what is now considered in most countries a single higher education system, subject in many cases to a single act and to some common rules. Besides the development of research, the harmonisation of curricula promoted by the Bologna Reform has been a decisive factor promoting this evolution. These processes do not, however, necessarily imply that UASs will develop into traditional universities by expanding their research function (Lepori & Kyvik, 2010).

Furthermore, providing UASs with a research mandate and integrating them into the higher education system does not mean that necessarily all distinctions disappear in favour of a pure hierarchical ordering. Depending on national constellations, the research mandate can be mobilised to promote functional specialisation towards some specific niches – like cooperation with SMEs – or convergence towards the academic model thus strengthening vertical differentiation also in systems where universities have been considered largely equal in the past.

In fact, this process was largely enabled by the blurring of the borders between the two sectors, which opened all kinds of intermediate options between the two extremes of being completely different and of complete integration, like focusing on a specific type of research, or on a set of customers or redefining to some extent what is considered as research. The reader should appreciate the subtlety and ambiguity of the distinction between UAS research and university research, where, despite all attempts to characterise the specific UAS role in research, some level of overlap is functional to the recognition of UASs as research institutions.

Finally, these distinctions assume normative force which can structure the system when they are recognised by sufficiently powerful coalitions of actors, which see also their interests well served by them. The Swiss case, where some branches of the private economy assumed a key role in establishing the UAS research mission, with a strong coalition between the economics ministry (in opposition to the internal affairs ministry, ruling universities) and regional authorities, is an excellent example of this. This is also a major difference between the new emerging organisation of higher education and the old binary systems; the latter have been essentially based on state authority, while today's functional specialisation is, to a large extent, sustained by actors' coalitions and stable relationships, for example, those emerging between UASs and some specific customers like SMEs. The latter was static, with the only possible choice between binary and unitary systems, while the former is more dynamic and open to new developments.

In conclusion, it seems unlikely from the national cases presented in this book that research in UASs will converge to some common model between European

countries, or that it will become not distinguishable from universities everywhere. We would rather expect different evolutionary paths largely related to specific national factors, but also to history; where the formal distinction between universities and UASs could become less relevant, but functional distinctions could be nonetheless well-present. It might be that progressively a few models emerge, as we attempted to point out in this concluding chapter, but the process is still in most countries in a too early stage to identify them unambiguously.

These remarks lead to some relevant implications both for research in the field and for policy-making. Research on higher education clearly needs to take fully into account their embeddedness in national systems and to go from simple national descriptions towards the development of a framework allowing a more systematic classification and comparison of national systems. A more systematic use of concepts and tools from organisational and institutional theory would be extremely helpful in this respect. For policymaking, our results imply that there is no unique recipe for developing research in UASs nor is transfer of the models of other countries necessarily a viable solution. Rather what is required is a careful analysis of its own system, of its strength and weaknesses, but also of the kind of solutions which are culturally acceptable in each national context. What comparative research can do is to analyse compatibilities and interdependencies between the different choices and to display the palette of available solutions. We hope that this book provides some progress in this direction.

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