DEFINE PROJECT

DESIGNING STRATEGIES FOR EFFICIENT FUNDING OF UNIVERSITIES IN EUROPE

ENORA BENNETOT PRUVOT, ANNA-LENA CLAEYS-KULIK AND THOMAS ESTERMANN

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FOREWORD

Following the different publications on "Financially Sustainable Universities", this report is another milestone in EUA's work on financial sustainability. EUA has since then carried out a variety of studies and organised many events which have also contributed to a better understanding of the current funding challenges for universities. The findings of this project were, for example, discussed in 2014 at the 2nd EUA Funding Forum in Bergamo.

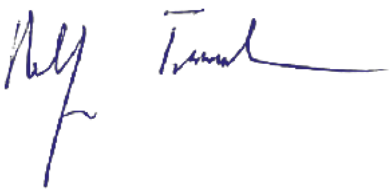
This report brings together the analysis of different funding tools and system restructuring trends across Europe with an aim to respond to a demanding and complex financial situation. Despite the diversity, it has become evident that the efficiency of funding in terms of the capability to meet certain policy goals in a cost-effective way is important in all European higher education systems.

The DEFINE project has made funding efficiency in higher education the main focus of its research and activities, with the aim to provide recommendations which will support the development of strategies to increase the efficiency of university funding.

The project has involved a large number of our members including our national university associations in the data collection processes, international focus groups, workshops and EUA's statutory meetings. Collecting and analysing these experiences has been essential in determining good practice, challenges and pitfalls of measures such as performance-based mechanisms, institutional mergers and excellence schemes.

Sharing the results and findings of this project with the broader higher education community and policy makers will help improve the design and implementation of university funding policies and thereby enhance funding efficiency in the sector. The outcomes will also support universities in developing their strategies in relation to the funding challenges they face. EUA will further use this study's findings to analyse current and future developments to illustrate good practice on the topic of funding. Our next project will look at how universities are taking up the challenge of efficiency and effectiveness at institutional level, by examining efficiency in professional, operational and support services, in academic matters and through strategic governance.

Finally, I would like to thank not only the authors but also those who have contributed to this report for their commitment and for sharing their expertise.



Rolf Tarrach
President
European University Association

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This publication brings together three reports ("Performance-based funding of universities in Europe", "University mergers in Europe" and "Funding for excellence") that thematically address the three main topics of the DEFINE project. It provides an introduction to the overall topic – designing efficient strategies for university funding. The reader will also find an executive summary of the three reports, a short account of the comparison with the health care sector as well as a set of recommendations for different stakeholders.

Exploring and analysing these topics in depth would not have been possible without the support and engagement of many dedicated and enthusiastic people and colleagues from across Europe.

EUA would like to thank the project partners, steering committee members and focus group participants for their time and expertise. Their diverse perspectives and experiences proved to be invaluable in developing and implementing the project and in analysing the impact of the studied measures. Their enthusiasm, commitment and critical reflection on the methodology and analysis were crucial from the beginning.

We would also like to thank our collective members. The input and knowledge of the Secretaries General of the national rectors' conferences and of their expert staff were instrumental in the project's success.

Enora Bennetot Pruvot and Anna-Lena Claeys-Kulik, co-authors of the report and at the heart of the implementation of the DEFINE project, deserve particular acknowledgement for their committed work over the last three years, together with Peter Mason for his work on university mergers.

EUA would also like to acknowledge the support of the European Commission's Directorate General for Education and Culture and the financial support received from the Lifelong Learning Programme.

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- European University Association (coordinator)
- Aalto University, Finland
- Centre for Research in Higher Education Policies, Portugal
- Copenhagen Business School, Denmark
- Friedrich Alexander University Erlangen-Nuremberg, Germany
- The University of Oxford, United Kingdom

INTRODUCTION

Universities across Europe today face a challenging and complex financial situation in which traditional modes of funding have been transformed and continue to evolve. Public sources in many countries are not as generous as they were in the past and often have become more demanding and competitive. The changes are particularly significant in Europe due to the traditional reliance of universities on public funding. The current economic and financial crisis has exacerbated even further these problems, with growing stress on the sustainability of university funding regimes and mounting pressure to explore new sources of income. The efficiency of funding in terms of the capability to meet certain policy goals in a cost-effective way is therefore becoming increasingly important.

Policy responses to these challenges take many forms. One way is to create a link between part of the public funding for universities and performance, using proxies for output such as the number of graduates or research contracts obtained, instead of pure input-based funding. Others favour system restructuring – for instance via institutional mergers – or try to foster differentiation of institutional profiles and the emergence of excellence hubs through specific funding schemes with a view to enhancing international competitiveness.

From a public policy perspective, one of the objectives of these measures is to enhance efficiency and make universities achieve more with no extra resources. This poses a number of questions with regard to university funding and governance. It is important to assess in particular the impact such measures have on institutions themselves, on their teaching and research activities, as well as on their interaction with society and different stakeholders.

The DEFINE project, the findings of which underpin the present analysis, has taken funding efficiency in higher education as the main focus of its research and activities. The project notably included the mapping of the use of funding efficiency measures such as performance-based funding, institutional mergers and excellence schemes across Europe. The empirical data collection and validation at system level was undertaken by EUA in several rounds of consultation and face-to-face interviews with national rectors' conferences across Europe. This was complemented by an academic research and literature review carried out by the Centre for Research in Higher Education Policy (CIPES) in Portugal (Teixeira, Biscaia, Rocha 2014).

Furthermore, the universities involved in the project consortium carried out a detailed self-evaluation, which informed subsequent institutional site visits by the partners to elicit and structure feedback on their experience with the respective efficiency measure. This input was instrumental in designing international focus groups of university leaders and senior managers to identify good practice, challenges and pitfalls as well as to assess the impact of these funding efficiency measures on universities. The first outcomes were discussed with the university community at the 2nd EUA Funding Forum in October 2014 in Bergamo, Italy, which brought together over 250 stakeholders interested in university funding from 39 countries.

The outcomes of EUA's empirical research are presented in the three thematic parts of this publication.

To ensure that these developments are seen in a wider context, the research also included a cross-sectoral comparative element exploring lessons learnt from the health care sector. As an essentially publicly funded sector, it presents similar characteristics to the university sector, and faces comparable constraints – notably growing demand, labour intensity, rising costs, more assertive users and as a result a growing emphasis on quality and transparency. The analysis based on the literature review was conducted by partners at the Department of Social Policy and Intervention of the University of Oxford (Mattei 2014, unpublished). In several European countries, the health care sector started to face these pressures earlier

than the higher education sector and the implementation of reforms has been ongoing for longer. This makes it possible to assess their impact with a view to extracting some lessons potentially transferable to the higher education sector. Similar policy responses have indeed been applied in both cases, such as changing funding modalities and fostering mergers. Key elements of comparison between the higher education and the health care sector are included in the executive summary on the next page.

On the basis of the evidence gathered throughout the duration of the project, recommendations addressed to policy makers, public authorities and university leaders and managers have been developed. These recommendations are presented after the Executive Summary. They are aimed at supporting the relevant decision-makers in developing strategies on how to sensibly use the respective measures with a view to mitigate the risks and reap the benefits.

The objective of this study is to contribute to the improved design and implementation of higher education funding policy and, in so doing, to enhance funding efficiency in the sector.

In the context of ongoing higher education funding policy developments at national and European level, the European University Association will use these findings to support universities in responding to these changes. The study will also inform EUA's further work in the field, as it has notably shown that universities themselves are very active in trying to improve efficiency at operational level. Through the USTREAM project "Universities for strategic, efficient and autonomous management", starting in 2016, EUA will explore this with the aim of raising awareness and spreading good practices in relation to institutional efficiency strategies.

EXECUTIVE SUMMARY

PART I: Performance-based funding of universities in Europe

1. In a context of constraint and competition for public resources, funding efficiency and accountability of public spending are becoming increasingly important. Linking public funding to institutional performance is an idea that often features in discussions on university funding policy at national as well as at European levels. Performance-based funding is indeed often perceived as a useful tool by policy makers, both in order to connect funding to measureable indicators and thus increase the transparency of spending, as well as to incentivise and reward the achievement of certain policy goals.

2. However, the term "performance-based funding" is understood very differently across Europe. In many cases it is used as a synonym for formula-based funding, often without taking into account the "input" or "output" related nature of the criteria composing the formula. Often performance-based funding is also perceived as competitive funding due to the fact that in many systems it is based on the principle of a closed envelope, which signifies that the amount available for distribution is prefixed and limited by public budgets.

3. In the context of the report, performance-based funding is understood as funding allocated based on indicators measuring the output (at different stages) of the process of learning and teaching, research or interaction with external stakeholders (e.g. number of graduates, number of citations, amount of external funding obtained, etc.).

4. Performance-based funding may be used for diverse purposes. This ranges from being used as simply one way of distributing money to institutions, to the idea of a steering tool or incentive mechanism to influence institutional behaviour and increase the performance of universities in certain areas of activity that are linked to specific policy goals (e.g. increasing higher education attainment, fostering knowledge transfer, increasing university-industry collaboration, etc.).

5. Performance-based funding is associated to funding formulae with output criteria, such as the number of graduates or citations/publications, as well as performance-contracts between public authorities and universities including goals and targets to be achieved (although the latter might not always have a direct link to funding).

6. A majority of the 28 systems covered consider their basic funding allocation mechanisms to be at least partially performance-based for teaching (via graduate-related criteria), and partially or mainly performance-based for research, where indicators related to publications and external research funding are normally taken into account.

7. Nevertheless, the most common method of allocation remains a primarily input-based formula (used by 13 of the systems considered in the study). It is often combined with other mechanisms such as performance contracts or budget negotiations and historical allocation.

8. The analysis reveals that the expectations of performance-based funding are often too high and should therefore be used with caution.

9. It can help increase the transparency of funding allocation and the accountability of public spending as it links funding to measurable indicators and achievements. It might also support profiling and strategic

positioning of universities, notably when this is through performance contracts between public authorities and individual higher education institutions. A pre-requisite for this is that procedures and goals are clear and not too complex, and that universities are an equal partner of the ministry, so that a real dialogue can take place.

10. However, the effects of performance-based funding are difficult to control and are highly dependent on other factors, such as the regulatory framework, the overall funding system and share of funding allocated based on performance, as well as the institutional profile, income structure, internal management and governance. It bears the risk of a decrease in quality of teaching and research when it incentivises institutions to lower their standards so as to speed up graduation or when it fosters slicing of papers and name dropping to increase the number of publications and citations.

11. Policy makers, funders and universities should take a holistic view on performance-based funding and develop strategies for reaping its benefits while mitigating its risks. These should include:

    - ensuring transparency of the funding system;
    - keeping the share of performance-based funding limited;
    - providing performance-based funding in form of additional funds, not slicing parts of core funding;
    - taking account of the costs of universities' activities in the funding scheme;
    - catering to the needs of different institutional profiles;
    - strengthening quality assurance;
    - ensuring institutional autonomy as a pre-requisite;
    - developing a strategic approach towards internal funding allocation at institutional level.

12. Funding, be it performance-based or not, is just one tool that must be combined with other measures to ensure the sustainability of the system and the high quality of education and research.

Comparison with the health care sector

One funding mechanism used in the health care sector in several countries across Europe is diagnosis-related groups (DRG). Hospitals receive a reimbursement of costs based on the diagnosis and treatment given, whereby pre-existing categories are used for calculation. This system was introduced with a view to reduce the length of patients' stay in hospitals and allow hospitals to remain within their budget. To some extent this can be compared to performance-based funding mechanisms in higher education introduced with a view to reducing the time to graduation. The analysis of the health care sector shows the following:

- This indeed led to efficiency gains as costs overall and per case decreased or at least increased more slowly than in cases where this mechanism was not applied and the average duration of hospital treatments could be reduced.
- However, the introduction of this funding mechanism also came with significant drawbacks such as complex regulatory and administrative processes and considerable methodological problems, notably with regard to the definition of performance and the choice of indicators to measure it. Furthermore there are concerns regarding a decrease in quality of care as this cannot fully be captured by DRGs. A negative impact on institutional behaviour was also noted as the mechanism triggers excessive attention to metrics rather than to long-term objectives. Even strategies of working intentionally below capacity to influence the setting of future targets can be observed.

The cross-sectoral comparison confirms that performance-based funding, both in higher education and health care, should be used with caution and be embedded in a broader strategy to mitigate the risks and reap the benefits.

PART II: University mergers in Europe

1. There is a continuous increase of merger cases reported throughout Europe that have taken place between 2000 and 2015, with a more significant dispersion of cases across countries during the second half of the 2000s, showing that the phenomenon is of growing importance.

2. A merger is considered to have taken place when at least one institution has ceased to exist as a legal entity, having been incorporated into either a new or existent institution. A *concentration measure* is considered to be a system-level initiative leading to a reduction in the overall number of higher education institutions, whether through mergers, or via the creation of federations/"hubs".

3. Merger processes can be distinguished according to a series of features: the relative size of the institutions involved; the degree of status and academic profile homogeneity; the depth of integration; and the link to wider system-level restructuring.

4. The rationale behind university mergers typically consists of a combination of drivers, including academic, organisational and financial factors. The potential improvement in academic quality and the advancement of strategic academic objectives is an important driver. Increased quality may be obtained by the pooling of academic talent and infrastructure, greater financial or staff resources, and opportunities for interdisciplinary research.

5. There is a strong expectation that mergers bring about economic gains, notably through the more efficient delivery of professional services, or via increased streamlining possibilities arising from the enlarged infrastructural stock.

6. Mergers are also used as a tool for system consolidation in the context of a broader restructuring of the higher education landscape. Objectives include overcoming fragmentation, achieving critical mass, avoiding duplication of programmes, creating synergies and reacting to the demographic decline.

7. Universities are best placed to identify their own needs and develop strategies accordingly, including exploring and instigating merger processes. The government's responsibility is to provide a political vision and a structure for the system that will enable to meet agreed objectives over the long term. The sector and the public authorities therefore need to set up the framework for an in-depth dialogue on such important questions as rationalisation and consolidation of the system.

8. Public authorities provide the regulatory framework which can foster or inhibit merger processes. They can support mergers by providing different types of incentives (via for instance granting funding or new status). For merger processes to be successful it is paramount to find synergies between system-level political objectives and institutional strategies.

9. A strong academic rationale for merging must be backed up by a solid economic case. It is important to enter a merger process with an understanding of the implementation costs involved.

10. If the anticipated costs are deemed to be unjustifiable in light of the potential benefits of the process, then the merger process should not proceed. Instead, the whole range of collaboration and cooperation possibilities should be reviewed to establish which would be the best option for the institutions concerned.

11. However, the potential for mergers to generate actual efficiencies is difficult to assess. There are long lead times when it comes to the implementation of mergers, and the real financial effects of the

transformation may take years to become fully apparent. In addition, the rationale and drivers behind the merger are key considerations in the decision on whether to undertake a full ex-post evaluation, which might not be seen as necessary or even beneficial.

12. The success of a merger depends heavily on the quality of the planning and implementation phases of the merger process. A credible and strong leadership team for the post-merger institution is a primary concern. The composition of the team may reflect the internal balance between merging partners or bring new external expertise perceived as neutral.

13. The structures established to manage the process need to include the different components of the university community. It is necessary to strike the right balance between involving the largest possible constituency and limiting the diversion of resources. A "cascading" structure with proportioned workload and commitment may contribute to that objective.

14. Depending on the characteristics of the merger, reorganising the institutions into one structure may be done incrementally or through a "big bang" approach, via a complete recast or by conserving pre-existent organisational units. In the transition phase a degree of recentralisation may be necessary to consolidate the new institution. The shaping of the structure must facilitate the academic mission rather than disrupt it.

15. Communicating a positive image of the merger and the change that it entails is essential for securing the buy-in of staff and students. This helps to create a new identity that will take precedence over the founding institutions in people's minds. In this process it is important to identify and take into consideration the various stakeholder groups of relevance, which differ from case to case.

Comparison with the health care sector

Mergers in the health care sector, for instance in Denmark, Norway or the United Kingdom, have been motivated by expectations of increased quality and efficiency, notably by optimising management and "back-office" costs and removing duplication of services. They have been considered as a means of supporting the financial viability of smaller units. In relation to quality, the rationale is that of improving patients' access to specialised services and practitioners. The analysis of completed mergers in the health care sector shows the following:

- While there are some gains from mergers, including concentrated provision of services and economies of scale by integrating small institutions into larger ones, the analysis does not reveal long-term financial gains and points to losses in terms of:
  - high transitional costs both with regard to infrastructure and staff;
  - lower productivity;
  - fall in activity;
  - lower competition and reduced patient choice;
  - access issues for patients;
  - lack of significant improvement in quality indicators.
- Catering for staff morale, integration of work cultures and community relationships are crucial factors in merger processes. Failure to address these challenges adequately may lead to the deterioration of the financial and strategic position of the institution.

The cross-sectoral comparison therefore confirms that the decision to enter into a merger process requires a detailed evaluation of short, medium and long-term costs, a comprehensive view of possible alternatives, and a sound plan for change management.

Part III: Funding for excellence

1. Funding for excellence refers to public funding schemes that have as their main objective to foster excellence. It primarily concerns large-scale initiatives where public funding is directed to universities on a competitive basis focused on the development of wider institutional strategies. They are referred to as "excellence schemes".

2. Excellence schemes are characterised by their selective nature – not all actors in the field are meant to receive funds; they are "exceptional" in the sense that they are not part of the main funding allocation system; they are limited in time, although they may be renewed. They typically target the institutional level rather than researcher teams or networks.

3. The concept of selection at institution level represents an important move away from the prevailing equality paradigm in a number of higher education systems in Europe.

4. Excellence schemes are introduced by public authorities for a series of reasons, the most prominent being the perceived need to enhance a system's competitiveness on the international stage. This is inherent to the restructuring to which the schemes are expected to contribute, through increased differentiation and resource concentration in the system.

5. The overall balance and nature of funding granted to universities is important when assessing the impact of excellence schemes on institutions. These are often seen by public authorities as a tool to leverage funds from third parties. The fact that they are perceived as additional funds also tends to translate into little indirect cost coverage possibilities.

6. The resource intensiveness at system level and costs associated with participation in excellence schemes for universities are often underestimated. This requires the development of exit strategies both at system and at institutional levels.

7. Discrepancies between the objectives, the selection criteria and administration modalities of the scheme are detrimental to the success of the initiative.

8. Excellence schemes encourage strategic profiling of universities, leading them to identify, strengthen and capitalise on their strengths and assets. This drive towards specialisation inevitably creates tensions within universities which, as comprehensive institutions, have a tradition of maintaining wide academic portfolios. This poses difficult questions regarding the desired degree of diversity of the academic offer in a given system, and the most relevant geographical level at which to measure such diversity.

9. Achieving institutional profiling requires a significant degree of restructuring of the institution's governance, introducing greater flexibility to speed up decision-making on strategic choices and fostering their implementation. The setting up of new structures within or above the institution requires careful design and may entail enhanced centralisation. Sufficient room for manoeuvre must be given to institutions to propose governance models that fit with their profile and characteristics.

10. It is the role of the university leadership to ensure the long-term sustainability of the activities funded under the excellence scheme through strategic reallocation of resources. The leadership must assess the opportunities, costs and benefits of participation while preserving the institution's balance and ethos.

RECOMMENDATIONS

I. Recommendations on performance-based funding

Based on the analysis the following recommendations have been developed. They list elements that policy makers and institutional leaders should bear in mind when integrating performance elements in their university funding system.

a) to policy makers

When reforming the funding system and introducing performance elements, policy makers should take into account the following:

System and funding context

- Take a holistic view of the overall funding system for universities.
- Take into account the cost structure when deciding about the share of funding to be distributed based on performance.
- Due to the high share of personnel and fixed costs (input factors) the share of funding allocated based on performance (output) should be limited.
- Do not slice core public funding, but rather provide additional money based on performance.

Regulatory framework

- Strengthen institutional autonomy in all dimensions.
- Enable universities to develop their own strategies with regard to internal funding distribution at institutional level.

Aims and purpose

- Be clear about the aims and the purpose of the measure.
- Decide whether it is meant for redistribution of limited funds or steering institutional behaviour and incentivising performance.
- Based on this evaluate which measure is best to achieve the aim(s) (→input/output indicators; performance contract).

Choice of indicators

- Consult the university sector on the choice of indicators/objectives.
- Take account of the diversity of institutional profiles and missions in the system.
- Try to find the most adequate proxies based on the policy goals to be achieved.
- Do not use indicators that were originally not developed for funding purposes as this deteriorates the system (e.g. university rankings, ratings of laboratories).
- Minimise the administrative effort for the measurement, generation and collection of data.
- Watch out for conflicting goals and indicators.
- Avoid indicators on which universities have little influence (e.g. graduate employment rate).

Impact

- Evaluate possible unintended effects as far as possible, already before introducing the reform.
- Bear in mind that the impact on universities depends very much on their individual profile and structure.

Implementation

- Foresee a testing/transition phase when introducing a new measure.
- Plan for regular feedback loops (assessment after a certain amount of time) and possibilities for adaptation.

- Try to balance efforts and needs and design efficient procedures for managing and reporting.

b) to universities

When the introduction of performance-based funding elements is planned, consider the following:

At planning stage

- Get involved in the design of the scheme at system level.
- Coordinate among universities, for instance through the national university association, to voice opinions and give constructive input.
- Enter into an active dialogue with public authorities and try to align the performance contract as much as possible with the institutional priorities.
- Involve the broader university community in the design of the performance contract.

At implementation stage

- Identify institutional priorities and develop a strategy on how to deal with the changes in the funding system and how to adapt the internal allocation system.
- Set up internal funding allocation schemes based on institutional priorities (may differ from the external one).
- Avoid direct links between remuneration and career development of staff and performance indicators used for funding allocation as these can have unintended effects (e.g. grade inflation, decrease in educational quality).
- Establish strong internal quality assurance mechanisms and foster quality culture.

II. Recommendations on university mergers

It must first be noted that the variety of initiatives that may be considered under the umbrella term of "merger and concentration processes" is vast. For a comprehensive view of the range of initiatives that have been undertaken in European universities, EUA developed a pilot merger mapping tool.[1] Despite the apparent diversity, however, university leaders and practitioners involved in the DEFINE study widely shared the belief that there was more commonality than divergence. Therefore, the potential for transferable learning is considerable.

Relationship with public authorities

- Care should be taken to ensure there is a productive relationship with public authorities in planning and implementing the merger; public authorities and higher education institutions should seek synergies between the system level political vision and institutional strategies.
- When public authorities are involved in the process, the principle of institutional autonomy should be respected, with universities given as much freedom as possible within the regulatory framework to negotiate with merging partners without constraints.
- Public authorities should recognise the costs associated with merger processes and provide additional funding to support them, in particular when mergers and concentration processes are part of the political vision for the system.

Efficiency and economic gains

- When developing the rationale for a merger, cost-saving should not be the primary driver. The academic mission must take precedence at all times, and any disruption to achieving academic objectives should be justified by the results of the process.
- As regards financial planning, consideration should be given to the opportunity costs of the merger (i.e. what the institutions could achieve with the time and resource that would otherwise go into the merger process).

[1] http://www.university-mergers.eu/

- Transition and implementation costs are invariably considerable, so it should be recognised, understood and communicated that any future economies will only be achieved in the long-term.
- Particular care should be given to the sustainability of the funding model after the merger.

Alternatives to merging

- Before committing to a merger process, other forms of cooperation should be fully explored to ensure that none of these would provide better academic results.
- Starting to plan a merger should not lead to a path dependency; even after the planning process has begun, there should remain leeway to stop the process if partners lose commitment or if it becomes clear that the costs are beginning to exceed the benefits.

Management

- The new management set-up should be one of the first considerations in the planning process – this is especially important for the identity of the new institution.
- The use of change management methodologies is key for reaping the dividends of a merger; the best of both (or all) institutions should be combined to foster trust and obtain the most efficient outcomes. Moreover, small adjustment and "fine-tuning" to structures and processes should continue even after the merger is notionally completed.

Communication

- Stakeholders of the merger process should be identified at an early stage; beyond staff and students of the concerned institutions, there are other groups to consider and consult, according to the profile of the merger (public authorities; prospective students; regional/national business partners, etc.).
- When communicating the merger to staff, transparency is essential to obtain staff buy-in. Likewise, considerable thought should be given to how the organisational structure will have to change, as this has a significant impact on feelings of identity.
- An optimistic and positive mission for the merged institution is another essential principle of any communications strategy, as well as identifying and persuading key constituencies and stakeholders (particularly the local community).
- Effective information management is important – unfounded claims about the merger should be confronted at an early stage and not be allowed to take root.

III. Recommendations on funding for excellence

The emergence of "excellence schemes" is one of the most recent manifestations of the changing paradigms in the field of higher education, along with the multiplication of international rankings. While the latter has attracted widespread attention, the former remains relatively untouched, in part because it is difficult to assess the full impact of this trend given its long-term effects. Nevertheless, a series of observations can be made, which provide the basis for the following recommendations.

a) Recommendations at system level

Funding

- Excellence schemes should be considered in their broader ecosystem, taking into account how they fit with the regular funding modalities – notably the universities' block grants and regular competitive funding mechanisms.
- Excellence schemes should represent additional funding, and not take away basic funding granted to universities.
- When designing such a scheme, public authorities should seek to develop synergies with existing funding mechanisms, including from private sources, to avoid excessive financial dependence on the scheme and foster the long-term sustainability of the funded activities.
- Funding granted to universities through excellence schemes should primarily support the achievement of scientific goals and thus a certain level of flexibility in expense management should be preserved.

Evaluation processes

- Public authorities should establish clear objectives and corresponding criteria for selection, seeking to maintain a high degree of transparency in all processes.
- Two-round application processes are viewed positively by the sector as they reduce upfront proposal-writing work and thus help limit the diversion of resources in case of failure.
- Checks and balances should be set up in the selection mechanisms to ensure a fair review of the different disciplines and of interdisciplinary applications (if possible by combining specialist and broader expertise in the evaluation panels).
- Evaluation panels should be briefed thoroughly and subsequently monitored; unambiguous instructions should be given as to how to evaluate the submitted proposals. It should be clear whether past performance of the institution is considered in addition to the submitted proposal.

Objectives and vision

- Excellence schemes should avoid direct linkages with international rankings, particularly as the methodologies used by these rankings vary and the criteria they measure research with may differ from the "excellence" that the scheme seeks to foster.
- Excellence schemes should be instrumental in fostering risk-taking approaches; public authorities and evaluation panels should steer away from conservative, risk-adverse patterns that would only consolidate and widen existing disparities between leading players and other actors in the field.
- Excellence schemes should also seek to foster the development of teams of young academics and researchers, thus supporting the emergence of the next generation of scientists.

Management and monitoring

- Public authorities, funding councils and universities should not underestimate the administrative dimension of running such schemes, both on the side of the funding body and for institutions. Therefore it is important to assess these costs against the expected gains.
- Related administrative procedures need to be kept as simple as possible, so that reporting and other requirements do not take precedence over the stated goals of the scheme.
- The funding body should collect feedback from the sector and review selection mechanisms accordingly; constant monitoring should help evaluate the attainment of goals of the scheme and assess the incurred costs.
- The funding body should establish an exit strategy to ensure the sustainability of the outcomes achieved by the system when the scheme is brought to an end, for instance by integrating the funding into regular funding mechanisms.

b) Recommendations to institutions

- University leaders should assess the administrative costs of preparing applications and managing such large-scale projects against the expected gains.
- It is recommended to anticipate the possible unintended effects of the university's participation in the excellence scheme on the different constituencies and areas of the institution.
- This analysis should be complemented by an action plan to mitigate these negative effects, through the implementation of an institutional strategy reassessing the university's priorities.
- The institutional strategy may usefully seek to redirect resources internally to support the identified priorities.
- The university may invest in a so-called "internal excellence scheme", designed according to the specific needs of the institution.
- The university should pay special attention to its communication with partners and external stakeholders, to explain and inform them about the activities established through participation in the excellence scheme. This will enhance the possibilities to develop further partnership and contribute to the sustainability of these activities.
- The university leadership should consider and establish an exit strategy allowing the university to maintain the new level of activities after the excellence scheme funding comes to an end.

CHAPTER 1.

PERFORMANCE-BASED FUNDING

1. Introduction

1.1 Performance-based funding: defining the terms

A policy discourse is emerging at European level

Linking public funding to institutional performance is an idea that often comes up in discussions on university funding policy at national as well as at European levels. In the Communication of the European Commission on "Supporting Growth and Jobs – and Agenda for the Modernisation of Europe's Higher Education Systems" (European Commission 2011) member states and higher education institutions are encouraged to implement funding mechanisms *"linked to performance including an element of competition"*. This was echoed by the ministers responsible for higher education in the Conclusions of the Council of the EU (28-29 November 2011) where they *"encourage more flexible governance and funding systems in higher education institutions, including mechanisms linked to performance and competition* (…)" (Council of the EU 2011, p. 9). Following on from this, performance-based funding (PBF) was discussed at European level on several occasions, such as at EU Council Presidency events (e.g. Meetings of Directors General for Higher Education) and Peer Learning Seminars for EU Member States' ministries organised by the European Commission as part of the Open Method for Coordination in the field of education.

The term is used and understood very differently across Europe

However, the term "performance-based funding" is understood very differently across Europe. In many cases it is used as a synonym for formula-based funding, often without taking into account the "input"or output" related nature of the criteria composing the formula. Often performance-based funding is also perceived as competitive funding due to the fact that in many systems it is based on the principle of a closed envelope, meaning the amount available for distribution is prefixed and limited by public budgets. Consequently money is distributed based on relative performance with regard to certain indicators, but the overall amount of money to be distributed remains stable which makes the allocation a zero-sum-game.

Performance or development contracts and target agreements, whereby certain goals are agreed between the funder and universities, are also associated with performance-based funding, although they do not always have a direct impact on the level of funding.

Consequently the present chapter looks at formula-funding and contracts or agreements between public authorities and universities and tries to identify elements of performance-based funding. Performance is

here understood as the output (at different stages) of a process of learning/teaching, research or interaction with external stakeholders (e.g. business, industry, society).

Different aims and policy goals are associated with PBF

Apart from the differences in definitions, the ideas on the purpose of performance-based funding are also quite diverse. They range from using it as simply one way of distributing money to institutions, to the idea of a steering tool or incentive mechanism to influence institutional behaviour and increase the performance of universities in certain areas of activity that are linked to specific policy goals (e.g. increasing higher education attainment; fostering knowledge transfer; increasing university-industry collaboration etc.).

The efficiency of funding in terms of the ability to meet certain policy goals in a cost-effective way is becoming increasingly important. Due to major budget cuts in a number of countries across Europe over the last years, public funding for universities is becoming scarce and the competition with other sectors is increasing. This also increases the pressure for more accountability of public spending. In this context performance-based funding is often perceived as a useful tool by policy makers, both in order to connect funding to measureable indicators and thus increase the transparency of spending, as well as to incentivise and reward the achievement of certain policy goals.

1.2 The present chapter

The present chapter focuses on public funding mechanisms and steering instruments that include performance-based elements.

Central questions

It addresses three main questions:

1. To what extent is university funding across Europe based on performance and how are performance elements embedded in public funding for universities?

2. What is the impact of performance-based funding on universities and their activities as well as the higher education system as a whole?

3. What should policy makers and institutional leaders bear in mind when integrating performance elements in their university funding system?

Structure

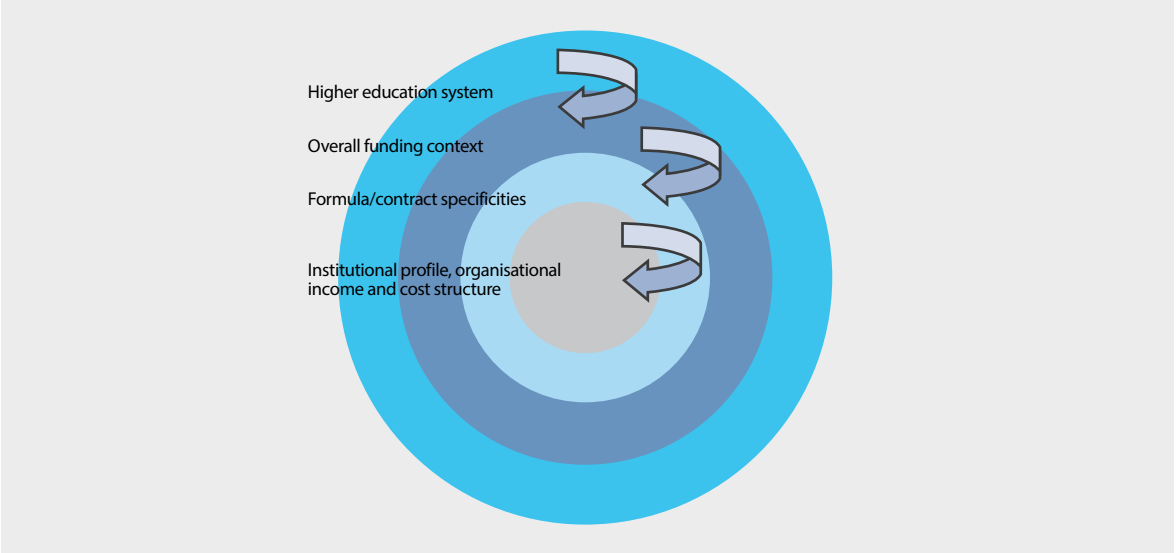
The effects of performance-based funding and steering tools are contingent on the overall funding context of a specific university system as well as the characteristics of its institutions. To assess the effects one has to look at the interplay between the following factors:

- **Contextual factors:** the overall funding system and the importance of the performance-based elements with regard to funding allocation (→ *What is the share of funding distributed based on performance?)*

- **Formula/contract inherent factors:** the number, combination and weight of indicators or the nature of the contract and the conclusion procedure (→ *Does the formula/contract give clear incentives?)*

- **Institutional characteristics:** the size and the profile of the university, the internal governance and management structure as well as the institutional income and cost structure (→ *How does the internal funding distribution work? What is the share of PBF in the overall institutional income structure? How is funding related to costs?)*

Figure 1: Factors influencing the effects of performance-based funding



Therefore the chapter firstly provides an overview of allocation mechanisms for core public funding to universities across Europe and identifies performance elements, notably in funding formulae and contracts between universities and public authorities. Secondly, it assesses the impact of performance-based funding at both system and institutional level and highlights possible unintended effects with a view to provide recommendations to policy makers and public authorities as well as university managers.

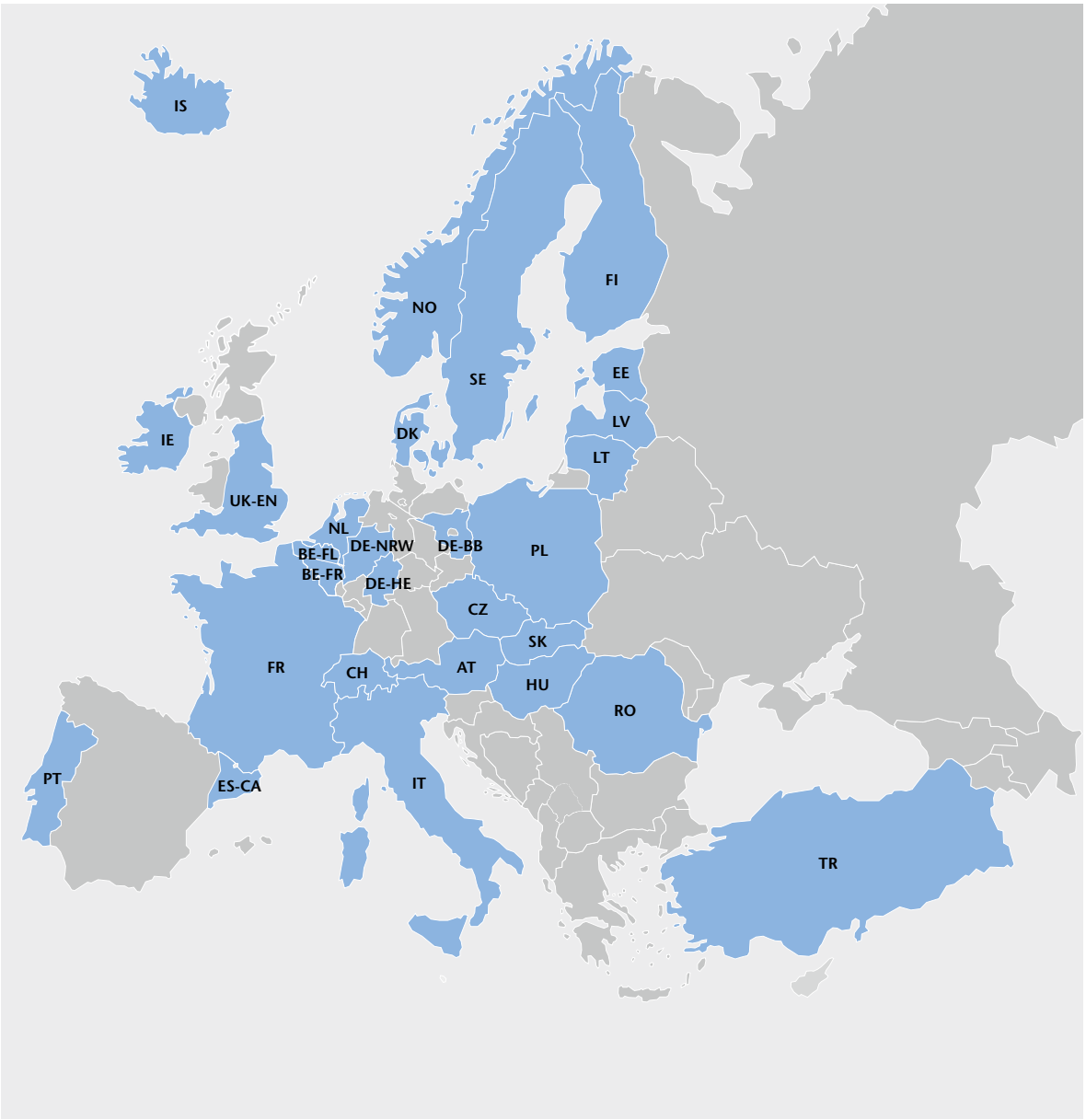
Scope and methodology

Data was collected from 28 European university systems[2] through a questionnaire, several rounds of consultation and interviews with EUA's collective members, the national university associations. This was complemented by institutional case studies obtained through an institutional self-evaluation report and a site visit to the Copenhagen Business School (CBS) (Denmark) and the work of a focus group where university managers and leaders from 13 higher education institutions in 11 European countries discussed their experiences with performance-based funding and its impact on universities. Furthermore, discussions which took place at the 2nd EUA Funding Forum in Bergamo (Italy) on 9-10 October 2014 and presentations given in a dedicated session were used as an additional source of information feeding into the analysis. The whole data collection and verification took place in the first two years of the project (from autumn 2012 until autumn 2014).

The analysis takes into account developments over the last two decades with a focus on more recent evolutions since the beginning of the economic crisis in 2008. Since 2008 comparative data has been available on the evolution of the amount of public funding to higher education institutions through the annual EUA Public Funding Observatory. This helps to put into perspective the changes in the modes of public funding and the evolution of performance-based elements, and thus strengthens the analysis. The chapter draws on these different sources of information and presents EUA's analysis of the use of performance-elements in university funding across Europe and its impact on institutions.

[2] N.B. Due to the lack of comparable data for some aspects of the analysis, not all systems are included in all tables, figures or overviews.

Figure 2: Systems covered by the analysis



2. University funding in Europe

With regard to university funding the situation in Europe is very diverse, both concerning the share of public funding in the overall income structure as well as the modes of allocation. Direct public funding to universities accounts, for example, for about 40% of the overall income of universities in England,[3] while it accounts for almost 90% in Denmark and Norway (see Figure 3) and within this only a certain amount is allocated based on performance. Besides the income sources, the cost structure is also important with regard to universities' financial sustainability. Therefore the following section briefly outlines the income structure as well as the cost structure of universities in different systems and provides an overview of the different modalities used to distribute public money to the institutions before the performance-based elements are more closely analysed in Section 3.

[3] Wherever England is mentioned in the present report this only covers the English higher education system and not the United Kingdom as a whole.

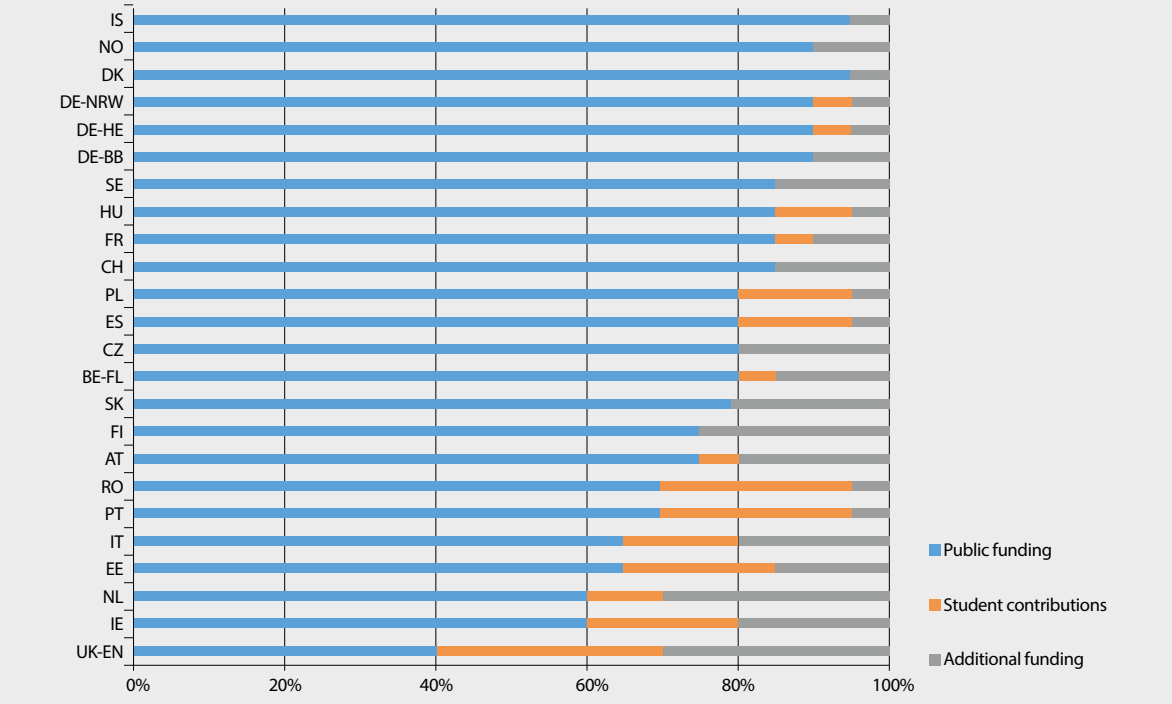
2.1 Income structures

There are important variations in the income structure of universities across Europe and because of the differences in funding systems and allocation methods, as well as institutional profiles, it is very difficult to obtain comparable data. There have often been significant changes in the modalities through which public funding is delivered. In addition, one should bear in mind the important cuts that have been made in the public budgets for universities in a number of countries since 2008. In 2014, 13 systems had lower public funding available to higher education institutions than in 2008 (taking into account inflation).[4] Given the importance of this funding source for universities, changes in both the nature and overall amount potentially have the greatest effect on universities' long-term financial sustainability.

Apart from direct public funding, tuition fees and administrative fees represent another income source for universities in several countries. However, there are considerable differences between systems. In 2013 the share of tuition and administrative fees in the overall average income ranged from about one third in England to, for example, none in Norway or Iceland (see Figure 3). These differences are also linked to the different policies and legal frameworks regarding tuition fees as shown in the EUA University Autonomy Scorecard (Estermann, Nokkala & Steinel 2011). In the six systems covered by the analysis there are, for instance, no tuition fees at all (neither for national/EU, nor for international students at any level) (Brandenburg, Czech Republic, Finland, Hesse, Iceland, Norway) while in some of those there might still be some administrative fees linked to enrolment (e.g. Hesse). In many other systems universities face restrictions in setting the level of tuition fees and often public authorities can decide either on a ceiling or whether to charge or abolish tuition fees at all. Due to political changes the situation of tuition fees in Europe is constantly evolving.[5]

Generating additional income from other sources is perceived as ever more important for the long-term financial sustainability of universities. Here we consider income generated by contracts with business and industry and provision of services (such as renting of facilities, catering services, consultancy, etc.), philanthropic funding and when possible, European funding.[6] Overall, these types of additional income sources exceed 10% of the average universities' income in most systems (Estermann & Bennetot Pruvot, 2011, p. 27).

Figure 3: Simplified average income structure of public universities (rounded up to the nearest multiple of 5)



[4] See EUA's Public Funding Observatory tool (http://www.eua.be/publicfundingobservatory) for more details and data.
[5] E.g. After the elections in spring 2015 the new Finnish government announced plans to introduce tuition fees for non-European students.
[6] It should be noted that European funds are not always identifiable in the universities' income structure; this may be, e.g. the case of structural funds, which are delivered by the national or regional authorities, and may thus be labelled as national/regional funds.

It should be noted that due to different methods of data collection and availability of data at national level it is difficult to make a precise Europe-wide comparison and therefore not all systems could be included. Figure 3 tries to give an indication of the proportion of public funding in relation to the overall income of universities in comparison to student contributions and additional funding. This income structure is subject to change notably due to alterations in regulations (e.g. tuition fees) and decisions on public budgets (e.g. funding cuts in many systems as a consequence of the economic crisis).

2.2 Cost structures

In addition to the income structures, cost structures play an important role in universities' financial sustainability. It is important to consider in this regard the high share of personnel costs which account, on average, for around two thirds of the overall expenditure of a university, whereby considerable variations exist between institutions. The first EUA study on funding showed that participating universities' personnel costs ranged from 44% to 73% (Estermann, Kanep & Smith, 2008, p. 25). In addition usually also costs for renting and/or maintaining infrastructure and buildings are a very important cost factor for universities depending on the system and whether the universities own their buildings.

This high share of fixed costs on the overall expenditure limits the flexibility of universities to adjust by reducing costs, also because in many systems the autonomy of universities with regard to financial and staffing matters is limited. Only in eight out of 29 systems covered by the EUA autonomy scorecard universities are allowed to sell their buildings without restrictions. Universities can freely decide on salaries of senior academics in only five systems and only in 10 systems for senior administrative staff. In all other systems different types and degrees of restrictions apply (Estermann, Nokkala & Steinel, 2011, pp. 41, 59).[7] Public funding modalities have to take account of this and provide a high share of funding based on input (e.g. number of staff, floor space, etc.), which signifies that the extent to which university funding can be based on real performance is rather limited in most systems.

2.3 Public funding modalities

In most systems in Europe universities receive basic recurrent public funding to cover their core activities through a block grant. A block grant is understood as *"financial grants meant to cover several categories of expenditure such as teaching, ongoing operational costs and/or research. Universities are responsible for dividing and distributing such funding internally according to their needs (the flexibility may be curtailed by minor restrictions)"* (Estermann & Bennetot Pruvot, 2011, p.14).[8]

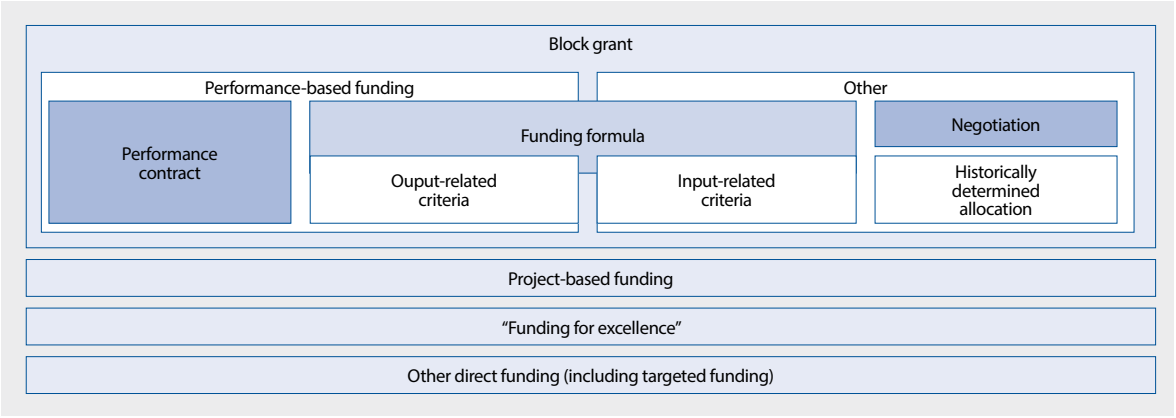
As shown by Figure 4, the overall amount of the block grant may be determined in different ways, such as through negotiation, on a historical basis, via a funding formula or through a performance contract. Often these elements are combined, such that a part of the block grant is negotiated, while another part might be determined on a historical basis or allocated via a funding formula or a contract. The importance of these different elements in determining the overall amount of the block grant varies across the systems.

Besides this, public funding is also increasingly tied to projects that are awarded based on competition, notably in research. In addition several systems have established funding streams for excellence in various ways, sometimes as large-scale schemes such as in Germany and France, or even embedded in regular recurrent funding as in the UK.[9]

[7] See also: http://www.university-autonomy.eu/dimensions/staffing/
[8] For further details on the level of autonomy universities have in different systems as regards the use of recurrent public funding, see Figure 7.
[9] The Research Assessment Exercise in the UK might be considered as another type of performance-based funding as it awards money to institutions based on past performance in research. However, as this is a specific mechanism to foster excellence in research, this is considered in Chapter 3 and not further considered in Chapter 1.

Finally, other direct funding mechanisms also exist, for instance targeted or earmarked funding for specific purposes, which may be allocated on a competitive basis, such as the Strategic Innovation Funding in Ireland, established as a mechanism for institutional restructuring and modernisation. Such funding may also be allocated directly to institutions: this is the case for the Higher Education Innovation Funding scheme in the United Kingdom, which focuses on knowledge exchange, or the "Successful Bachelor degrees "plan in France, which funds concrete measures aiming at improving the overall success rate in Bachelor degrees (e.g. individual supervision, new teaching methods).

Figure 4: Simplified overview of public funding allocation mechanisms



The present chapter focuses on allocation mechanisms for block grants as in most cases they are the main method of distributing public funding to universities in Europe. Although formula-based block grants are the main way of delivering public funding in the majority of the systems considered, negotiated block grant/historical allocation remains the most important mechanism in some large systems such as in France, Italy and Poland (for teaching only in the latter two) as well as some smaller ones (see Table 1). Most countries, however, have a mix of different allocation modalities and the analysis shows a great diversity between systems.

Table 1 is an attempt to provide an overview of allocation mechanisms for block grants across the systems considered. It also tries to group them according to the allocation mechanism used and its importance with regard to the overall block grant allocation, whereby a main mechanism is referred to as the mechanism which allocates the largest share of the block grant and a minor mechanism is any other mechanism used for this purpose. The table is a simplified way of grouping systems in order to enable comparisons. The complexity of funding mechanisms across Europe makes this a challenging exercise as sometimes different allocation mechanisms are combined (e.g. Austria see Example 2).

Table 1: Overview of allocation mechanisms for block grants

	Funding formula	Performance contract with impact on funding	Negotiation/historical determination
Primary mechanism	BE-FL; BE-FR*; DE-BB; CZ; DE-HE; DK*; ES-CA; FI; HU; IE; IS; LT; LV*; NL; PT; RO*; SE*; UK-EN	AT	BE-FR+; CH; DE-NRW; DK+; EE; FR; IT*, NO; PL*; SE+
Secondary mechanism	CH; DE-NRW; DK+; EE; FR; IT*; NO; PL*+; SE+	DE-BB; DE-HE; FI; FR; IE; IT; LV+; NL; UK-EN	DE-BB; DE-HE; ES-CA; HU; NL

* teaching funding only

\+ research funding only

In most systems the block grant covers teaching and research activities, while in some there is no basic funding for research as this is exclusively allocated on a competitive basis, indicating that not all universities always receive it (e.g. Italy, Romania). Many systems have more than one mechanism to determine the block grant given to institutions, but only in some the mechanisms for teaching funding and research funding are clearly distinguished.

In Table 1 teaching and research funding are therefore only distinguished if there are separate mechanisms to determine the block grant linked to these two areas (e.g. two different formulae as in Sweden; or a formula for teaching and a mixture of historical allocation and a formula for research as in Denmark) or if, for instance, the block grant only determines teaching funds (e.g. Romania).[10] As funding mechanisms are subject to change and reforms the table above provides a simplified snapshot of the situation at the time when the data was collected.

3. Performance-based elements in university funding

The following section looks at performance-based elements in the allocation of basic recurrent public funding to universities across Europe through funding formulae and performance contracts. As explained previously the notion of performance is linked to an effort that an institution has to make to produce a certain outcome such as a graduate or a research result which can also include intermediary steps, for example, students who passed a year of studies or for instance, patent applications (not just the number of patents obtained) in research. Therefore throughput indicators (such as students who took exams) as well as output indicators (such as the number of graduates, the number of citations in research publications, etc.) used in funding models can be classified as performance-based. Some other indicators linked to internationalisation or diversity can also be considered in this regard as they are linked to the achievement of specific policy goals (see Table 2, typology of indicators). The fundamental difference between the two instruments, funding formulae and performance contracts, is that they start from a different point in time. Funding formulae work with indicators to measure past performance. Performance contracts include goals and targets for the future and, depending on how detailed and specific they are, also have a set of indicators to measure the achievement of those at a later point in time. Both mechanisms might also be used in combination.

3.1 Funding formulae

Definition

A funding formula in this context is understood as a mechanism to determine the amount of funding allocated to a higher education institution using a mathematical formula which includes variables based on indicators, such as student numbers, etc. This can be differentiated from other ways of determining the amount such as negotiation or historical allocation. The variables in a funding formula refer to the past (e.g. past year).

[10] N.B. This is independent from the question of whether and to what extent universities are free to reallocate those funds to other activities internally. More information on this can be found in Section 5.

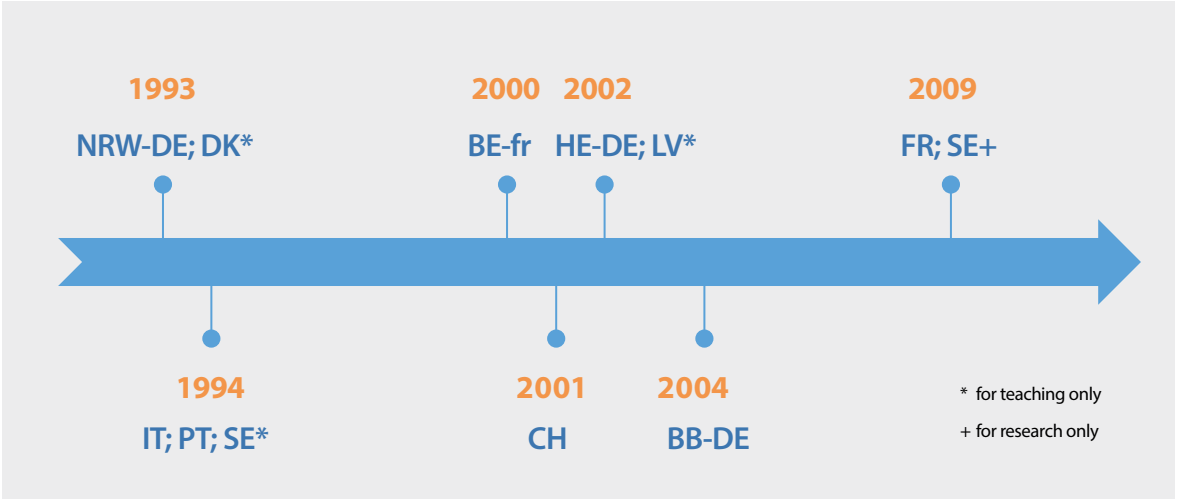
Purpose

Funding formulae are often introduced to make funding allocation more transparent by linking it to measurable indicators. Compared to historical allocation this allows taking into account changes over the years, such as an evolution of student numbers, as the data is collected at regular intervals.

Introduction

Funding formulae were introduced in several European systems during the 1990s. A second wave of introduction followed in the early 2000s as shown in Figure 5.[11]

Figure 5: Timeline of introduction of funding formulae



A common feature at the introduction stage are thresholds, adjustments and moderating mechanisms to minimise or completely avoid losses for universities compared to the previous system and allow for a smoother transition. In all systems concerned the formula has been revised and adapted since then.

Example 1: Ireland – Limiting funding changes through a moderating mechanism

The recurrent core funding is allocated to universities through a block grant based on the Recurrent Grant Allocation Model (RGAM). The block grant is supposed to cover core teaching and research activities within institutions; however each institution is autonomous with regard to the internal allocation of funds.

Finally the RGAM operates using a moderating mechanism. The moderating mechanism aims to avoid significant fluctuations in grant allocations across institutions on a year-to-year basis by limiting the funding changes each year to within +/- 2% of the overall sectoral increase or decrease. The model was introduced in 2006 to be phased in over a three-year period. Some minor changes have been introduced, primarily in respect of the categories of students who are eligible for inclusion in the student numbers for grant allocation purposes.

A review of the funding model/formula is however currently being undertaken by the Higher Education Authority.

Source: DEFINE Focus Group Feedback and Irish Universities Association

[11] This information was available from the NRCs for only 11 out of the 28 systems covered by the analysis.

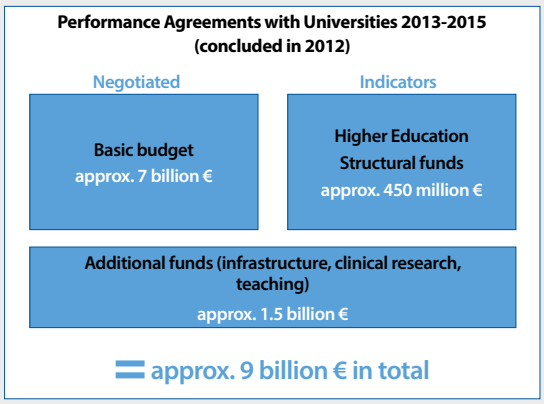
As already mentioned, there are considerable disparities as to the share of core public funding distributed via a formula.

The share varies from almost entirely formula-based models (e.g. Brandenburg and Hesse in Germany) to models where the formula only determines a small part of the block grant (e.g. France, North-Rhine Westphalia). In a few systems a formula is or was previously used only for the distribution of teaching funds (e.g. Denmark, Latvia, Romania, Sweden[12]).

Austria (see Example 2) is the only system which completely abolished the automatic allocation via a formula after having used it for parts of the block grant for nearly a decade. Since 2013 this has been replaced by the negotiation of a performance contract for the whole block grant, albeit still substantiated by data on enrolment, knowledge transfer, private income and cooperation.

Example 2: Austria – Performance agreements for three years

In Austria an individual contract between each university and the ministry is concluded to define the tasks that the university fulfils as a public service on behalf of the state and the financial means the state provides in return. The contracts are valid for three years. Core public funding is delivered as a global budget (block grant) to universities and consists of two pillars, the basic budget and the higher education structural funds. Additional public funding is granted for infrastructure, clinical research and teaching.



The basic budget is negotiated for the entire duration of the contract (to a large extent covering salaries) and the part that each university receives from the higher education structural funds is determined based on indicators linked to quantity, quality and performance targets agreed in the contract. These targets are related to teaching, research or development of the arts, and societal goals such as gender equality, inclusion, integration of minorities and accessibility, lifelong learning or internationalisation and knowledge transfer.

The contract also includes measures to be taken in the event that the targets cannot be met (such as an obligation for the university to build up reserves) or the state does not have enough means to deliver the agreed amount of funding as well as procedures for reporting and accountability. These provisions usually emphasise the need for a dialogue between the ministry and the university so that action can be taken in time as soon as any problems surface to prevent possible underachievement of the target.

Source: Austrian Federal Ministry of Science and Research

[12] Sweden between 1994 and 2009. In 2009 another formula for research funding was introduced.

Other countries have cut or even abolished formula funding due to the economic and financial crises (e.g. Spain, Portugal). For example, in the Madrid region the use of the formula has been suspended as part of the austerity measures and the government resorted to historical allocation with cuts every year.

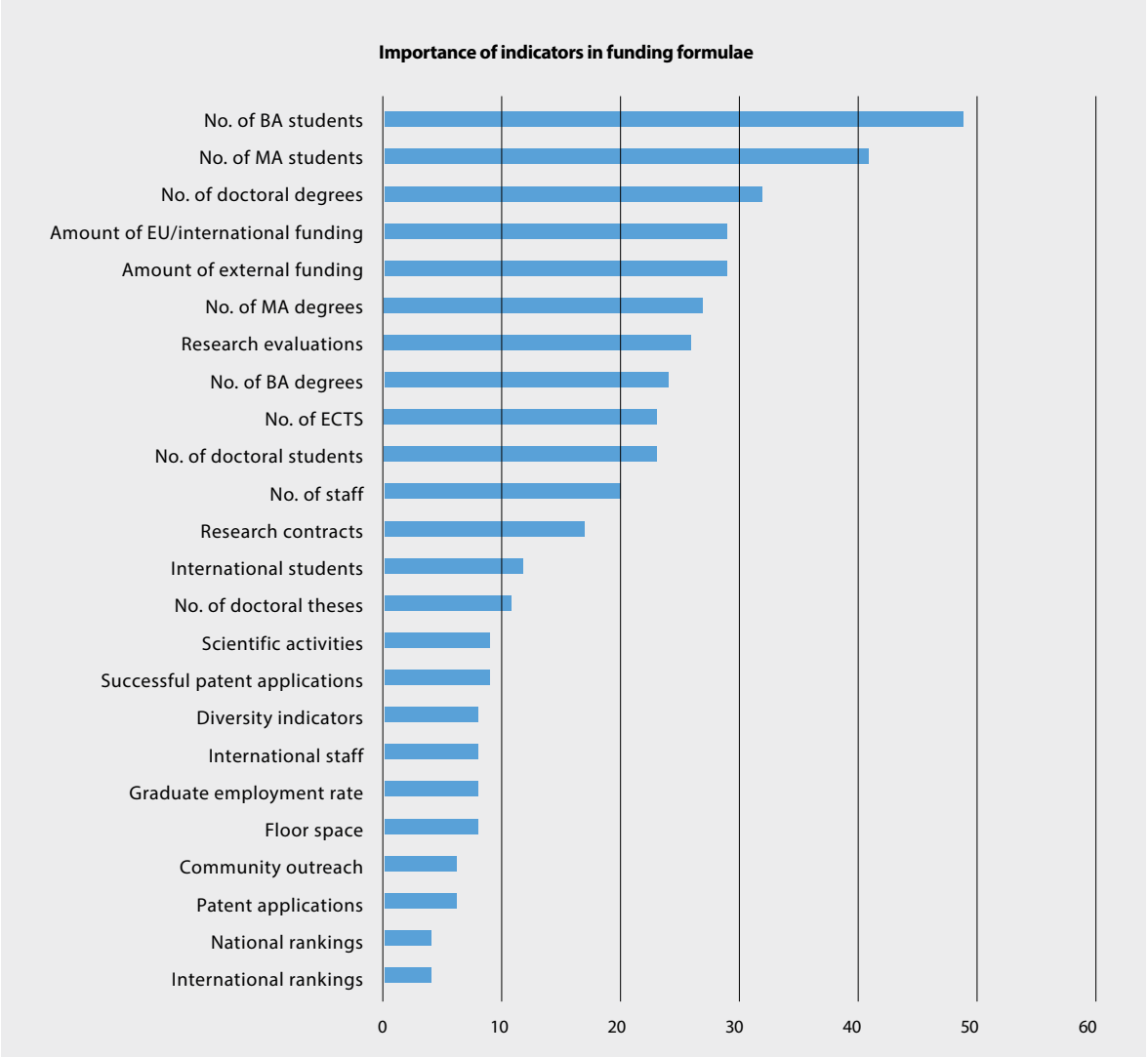
Composition

Besides the differences in importance of the formula funding with regard to the amounts distributed, the composition of the formulae also varies greatly. In many systems with formula funding, input indicators such as student numbers (at Bachelor and Master level) often play the most important role in determining the amount of funding a university receives via a block grant (see Figure 6).

The corresponding output-oriented indicators (number of Bachelor and Master degrees), are used less frequently and/or have often less weight in a formula. It is interesting to note the importance of some output-oriented criteria, which are usually linked to research output: doctoral degrees, international/ European funding and external funding are considered the most important criteria, followed by teaching-related output criteria of Master and Bachelor degrees and the number of credits obtained. Other commonly used output indicators are research evaluations and research contracts.

Figure 6: The importance of indicators in funding formulae

Predefined list of indicators which were rated by National Rectors' Conferences of 21 systems according to their importance in the funding formula. The length of the bar indicates the importance of the indicator.



Current important policy priorities such as internationalisation and student and staff mobility are also mirrored in funding formulae in several systems through indicators such as the number of international students and, although to a lesser extent, the number of international staff members.

Example 3: Denmark – the internationalisation taximeter

As part of the funding formula for teaching, universities in Denmark are rewarded for their internationalisation efforts based on the number of Danish students going abroad and international students coming to Denmark. For every incoming and outgoing student who either studies or carries out an internship linked to their studies, a university receives a fixed amount of 5,000 DKK (roughly 670 € in current prices).

Source: CBS DEFINE self-evaluation report (unpublished)

Example 4: Finland – rewarding internationalisation

Finland takes into account the universities' international teaching and research personnel in its funding model, and all internationalisation-related criteria (including competitive international research funding) account for 9% of the public funding:

- Master' s degrees awarded to foreign nationals: 1%
- Student mobility to and from Finland: 2%
- PhD degrees awarded to foreign nationals: 1%
- International teaching and research personnel: 2%
- Internationally competed research funding: 3%

Source: Finnish Ministry of Education and Culture

Most formulae include a combination of input- and output-related indicators as well as several other indicators linked to specific policy goals (e.g. internationalisation, gender aspects, interaction with society, etc.). Where formulae for teaching funds and research funds can be distinguished, those for teaching funds are in most cases primarily input-oriented (Ireland, Poland, Romania, Sweden), while those for research funds are mostly primarily output-oriented (Ireland, Poland). For systems that have one formula (including indicators for teaching and research) the majority are primarily input-oriented.[13] Only the Danish taximeter system for teaching funding is exclusively output-oriented, largely based on the number of degrees awarded.

Table 2 tries to group the different indicators according to their nature. Table 3 provides a comparative overview of indicators used in funding formulae across Europe. It is based on a non-exhaustive list that was developed with National Rectors' Conferences.

[13] Brandenburg (Germany), Catalonia (Spain), Czech Republic, French-speaking Community of Belgium, Hesse (Germany), Hungary, Iceland, Latvia, Netherlands, Portugal

Table 2: Typology of indicators in funding formula

	Input	Throughput	Output	Other
Teaching	BA/MA students; student/staff ratio	Students who took exams; ECTS attained; exams passed; year completed	BA/MA degrees obtained; degree completion in standard time of study	Graduate employment rate; added value of diploma; international students
Research	Doctoral students/ candidates	Patent applications	Doctoral degrees/ theses completed; research evaluation; successful patent applications; external research funding obtained; scientific activities; research contracts obtained; publications/citations; income from science and technology transfers; publishing researchers	
Other	Staff; floor space		External funding obtained; EU/international funding obtained (can be linked to teaching and research); rankings outcomes	International staff; diversity-related indicators; community outreach; review of strategic plans of universities; staff structure/ quality

Table 3: Overview of indicators used in funding formulae[14]

	BE-FL	BE-FR	CH	CZ	DE-BB	DE-HE	DE-NRW	DK	ES-CA	FI	FR	HU	IE	IS	IT	LT	LV	NL	NO	PL	PT	RO	SE	SK	TR	UK-EN
No. of BA/MA students	x	x	x	x	x	x			x		x	x	x		x	x	x	x	x	x	x	x	x	x	x	
No. of doctoral students/ candidates		x		x					x			x	x		x		x			x	x	x		x	x	
No. of staff					x				x	x	x		x		x	x				x	x	x			x	
Floor surface									x			x				x						x			x	
ECTS attained/ exams passed/year completed	x							x	x	x					x				x		x	x	x			x
BA/MA degrees obtained	x			x	x		x	x	x	x	x			x	x			x			x	x		x	x	
Doctoral degrees obtained/ theses completed	x	x			x	x				x	x		x					x	x	x	x	x		x	x	
Research evaluation mechanisms				x					x		x	x			x					x	x	x	x	x	x	x
Patent applications				x					x													x			x	
Successful patent applications																				x		x			x	
External funding obtained			x	x	x	x	x		x	x		x	x		x				x	x	x	x	x	x		

[14] For the sake of comparability, Table 3 includes the main elements of indicators, but not the exact way of calculation, e.g. the Finnish funding formula includes the percentage of students who completed 55 ECTS/year as an indicator which is in the table included under the category "ECTS attained/exams passed/year completed" to be able to compare the main element to formulae in other systems.

	BE-FL	BE-FR	CH	CZ	DE-BB	DE-HE	DE-NRW	DK	ES-CA	FI	FR	HU	IE	IS	IT	LT	LV	NL	NO	PL	PT	RO	SE	SK	TR	UK-EN
EU/ international funding obtained			x	x					x	x		x			x					x	x	x	x	x	x	
Scientific activities				x							x				x					x	x	x			x	
Research contracts obtained				x					x		x		x		x					x	x	x			x	
International ranking outcomes											x	x										x				
National ranking outcomes											x	x										x				
Graduate employment rate				x						x		x			x						x	x		x		
International students				x	x	x		x	x			x			x				x	x	x	x		x	x	
International staff				x		x				x										x	x	x			x	
Diversity-related indicators					x	x	x		x												x				x	
Community outreach									x			x										x			x	
Review of strategic plans of universities										x								x								
Publications/ citations	x			x						x		x							x	x			x			
Student-staff ratio																				x						
Income from science and technology transfer				x		x			x																	
Degree completion in standard time of study								x						x												
Students who took exams											x			x												
Staff structure/ quality				x								x								x						
"Added value" of a diploma											x															
No. of publishing researchers											x									x						

Redistribution or rewarding performance?

One very important element of the funding formula is how it accounts for change in the value of an indicator. In most of the systems, funding allocation is based on the principle of a closed envelope, meaning the formula is a pure distribution mechanism for dividing the basic funding foreseen for research and/or higher education within the state budget among the universities. Therefore, caps and scaling factors are usually embedded in the formula to control, for example, growth in student numbers/credits awarded.

Example 5: Poland – redistribution of teaching funds

In Poland universities receive funding for teaching through a block grant that is to a large extent based on historical allocation (65% of previous year's grant), while the part related to current parameters is formula-based being a weighted sum of: the overall number of students (weight 0.35); the number of academic staff (weight 0.35); a parameter reflecting the students-per-teacher ratio (weight 0.10); the number of research grants (weight 0.10); the number of disciplines in which the university has rights to award doctoral degrees (weight 0.05); and the number of students exchanged with other universities in the framework of mobility programmes (weight 0.05).

The parameters used (like the overall number of students, the number of academic staff) are themselves calculated as weighted sums of different categories of students, different categories of staff etc. For example, in calculations of the number of academic staff, professors are counted with a weight of 2.5, while lecturers with a doctoral degree account for 1.5.

This model is a distribution mechanism for dividing the state educational budget among universities. The total budget size is thus the input parameter, while the amount per student is the outcome, and not vice-versa. This means if the budget is constant, an identical change in all universities (e.g. an increase in student numbers of 5%) does not change the absolute amount received by a university, but the amount per student decreases.

Source: DEFINE Focus Group Feedback

A different example is Denmark where funding increases with the number of students who successfully complete parts of their studies.

Example 6: Denmark – increasing HE budget due to taximeter principle

In order to fund its teaching activities a university in Denmark receives public money each time a student makes progress in his/her studies, i.e. when he/she has passed an exam. The amounts differ according to subject area and are determined in a yearly Finance Act. Each year all the exams passed are taken together and are recalculated into full time equivalent students passing exams on the basis of ECTS credits (60 ECTS = 1 FTE), whereby the number of FTE determines the funding. In addition the institution receives a completion bonus for each student who graduates in a fixed time frame from a specific study programme. This means funding for a specific year is based on the FTE production of the previous year. As the FTE production has been increasing over the years and since Danish universities are free to determine student numbers and the demand has been increasing, the funding of the higher education sector through the taximeter system is growing numerically and thus becomes an increasing post in the national budget.

Source: CBS DEFINE self-evaluation report (unpublished)

3.2 Performance contracts

Definition

Another way of steering institutional behaviour are so-called performance contracts, target agreements or development contracts, whereby certain goals are agreed between public authorities and universities.

Purpose

They can have various purposes such as:

- strategic positioning of universities and profiling;
- structuring the dialogue between the ministry and universities;
- increasing transparency; and
- detailed steering and setting targets.

Types

Different types of performance/target agreements and development contracts exist in 14 of the systems considered in the study. In 10 systems they can have an impact on funding, albeit to very different extents. In the majority of systems they are seen more as a governance tool than as a funding instrument.

Table 4: Simplified overview of performance contracts and their link to funding

<table>
<tr><th colspan="3">Systems with performance contracts</th></tr>
<tr><td colspan="3">AT; CH; DE-BB; DE-HE; DE-NRW; IT; DK; EE; FI; FR; IE; LV; NL; UK-EN</td></tr>
<tr><td colspan="2">Direct link to funding</td><td>No direct link to funding</td></tr>
<tr><td colspan="2">AT; DE-BB; DE-HE; IT; FI; FR; IE; LV; NL; UK-EN</td><td rowspan="3">CH; DE-NRW; DK; EE</td></tr>
<tr><td>Basic recurrent funding</td><td>Additional funding</td></tr>
<tr><td>AT; DE-BB; DE-HE; FI; FR; IE; LV; NL</td><td>IT</td></tr>
</table>

Format and content

While performance-based elements in funding formulae always relate to past-performance, performance contracts are agreements about future performance setting goals to be achieved. The goals can be specific to the university and more or less aligned with its strategy or they might be derived from more general higher education and research policy goals of the ministry. They can be defined in more or less detail, but usually not all elements are strictly linked to the performance of a university. Targets might be described as results to be achieved leaving it up to the university to decide how or which concrete actions are to be undertaken within a given timeframe. They might be described as more qualitative measures (e.g. improve equal access of men and women to leading academic positions) and/or be linked to quantitative indicators (e.g. increase the number of female professors) similar to those included in funding formulae. Depending on the nature of the goals and targets, the procedures for assessing their achievements also vary and are more or less complex. In some cases the evaluation might simply take place in the form of discussions between the ministry and the university, for others a complex data collection is necessary.

Below are some examples to illustrate the differences:
In Austria, since 2013 the contract is the outcome of a budget negotiation between the ministry and each university to determine the amount of funding per institution, whereby the minimum level is prefixed by law. The achievement of the contract's objectives can have an impact on the negotiations for the next funding period, but there is no automatic link (see Example 2).

In the Netherlands performance contracts were introduced in 2012 and since then a set amount of the block grant (currently 7%) is distributed on the basis of objectives agreed between the Ministry of Education and individual universities. After three years a review commission will assess whether these objectives have been met, but it remains to be seen whether this will really have a direct impact on funding (see Example 7).

Example 7: The Netherlands – foster institutional profiling

In 2009-2010 the Dutch government established a committee of national and international experts to give advice on reforming the Dutch higher education system to equip it for the expected massive increase in student numbers (according to forecasts about 1/3 by 2020), reduce the drop-out rate and make the system more responsive to the needs of the knowledge economy. Following the main recommendation of the committee, which was to improve quality and diversify the higher education system, the government developed plans to change the funding system in order to encourage institutional profiling and stimulate differentiation in the educational offer.

The plan was to strengthen the performance component in the funding system which previously was mainly input-based for all higher education institutions (60% of the block grant was allocated based on enrolment, 20% on a fixed (historical) basis and 20% based on the number of diplomas awarded). Therefore performance agreements between the ministry and individual higher education institutions were established. As a first step HEIs were asked to draft a strategic plan with their objectives for 2012-2016 regarding the following policy priorities:

- ***Improve educational achievements*** (seven indicators; graduation rate; drop-out rate; study switch; quality assessment or number of students in excellent tracks; educational intensity; overhead)

- ***Strengthen education and research profile*** (educational portfolio; priorities in research; response to strategic priorities in national innovation policy and grand challenges)

- ***Increase the impact and utilisation of research*** (exploitation)

The universities were free to choose the format of their strategic plan as well as develop their own objectives but it had to include targets for 2015 in relation to the seven educational indicators mentioned above. In summer 2012 all strategic plans were assessed by an independent review commission taking into account their alignment with the national policy goal of institutional profiling and their feasibility. In case of a positive evaluation the minister then signed a performance agreement with the institution.

7% of the block grant was foreseen to foster quality and profiling separated into two streams:

- 5 % is conditional funding (for universities to obtain their share of this stream they have to have a performance agreement with the ministry), and
- 2% is selective funding (this stream includes a competitive element as those universities which have achieved a higher score in the assessment of their strategic plan receive relatively more money).

In 2016 the review commission will evaluate the performance of HEIs with regard to their targets. In case that a HEI does not reach its targets related to the seven educational indicators in 2015, it is foreseen that the HEI receives a smaller share of the conditional funding for the period 2017-2020.

Source: Ministry of Education, Culture and Science of the Netherlands

In Brandenburg and Hesse, two of the three German "Länder" included in the study, a certain percentage (2% and 5% respectively) of the block grant is linked to the achievement of the objectives agreed upon in the performance contracts specific to each university. However, the assessment is not very rigorous and underperformance has so far never been sanctioned by funding cuts.

Italy is an example of a system where the performance contract is not linked to the block grant distribution, but to additional funding (see Example 8).

Example 8: Italy – performance contracts linked to additional funding

In Italy the ministry and the universities conclude three-year contracts, whereby the achievement of the agreed objectives determines the allocation of additional resources. In 2013 the additional funds available were limited by law to a maximum of 2.5% of the public funding received by the university. The objectives can be linked to the following areas:

- Student services
- Internationalisation/interaction with the local environment
- Foreign staff
- Cooperation among universities
- Rationalisation via redistribution of courses at regional level

The university chooses among these areas and sets a starting point as well as targets; funding is partly provided at the beginning (to facilitate investments) and partly at the end of the period (upon meeting the targets).

Source: Italian Ministry for Education, Research and University

A performance contract may also be used as a complementary instrument to a funding formula either to align the contract's objectives with the formula or to mitigate some of the negative effects of a formula by, for instance, setting additional objectives for the quality of teaching and research.

Example 9: NRW – aligning different mechanisms

In North Rhine Westphalia (NRW) (Germany) each university has an individual performance and target agreement with the regional ministry which runs over a period of two years. It includes objectives that are negotiated between the ministry and each university and they are mainly linked to teaching (e.g. quality of the offer; successful completion) and for some universities more specifically to programmes preparing future school teachers. The achievement of the objectives is not linked to additional funding.

A paragraph in the target agreements refers to the fact that the ministry provides "sufficient and sustainable" funding to universities' contingent on the overall budget of the region and with these means the universities should achieve the objectives. Although there is no direct link to funding in the agreements, the achievement of some of the objectives still matters to some extent with regard to funding. Some of the objectives relate to the performance indicators that are used to distribute 23% of the block grant. In general the performance and target agreements in NRW are rather a soft steering mechanism, the purpose of which is more to provide a means for coordination between the universities and the ministry than a funding instrument.

Source: German Rectors' Conference (HRK)

Table 5 gives an overview of the extent to which performance contracts are linked to funding in the different systems. Due to the lack of comparable data, not all of the systems in which performance contracts with an impact on funding exist could be included in the table.

Table 5: The share of funding allocation through performance contracts

System	Funding
IT	Additional funding of max. 2.5% of public funding received by university
AT	Overall block grant linked to performance contract
NL	7% of block grant
DE-HE	5% of block grant (but no rigorous sanctions so far)
DE-BB	2% of block grant (however no rigorous sanctions so far)
IE	around 1% of block grant
LV	< 1% of block grant

This does not mean that funding is in all cases entirely dependent on performance, as the contracts may include a variety of different elements which are not related to performance.

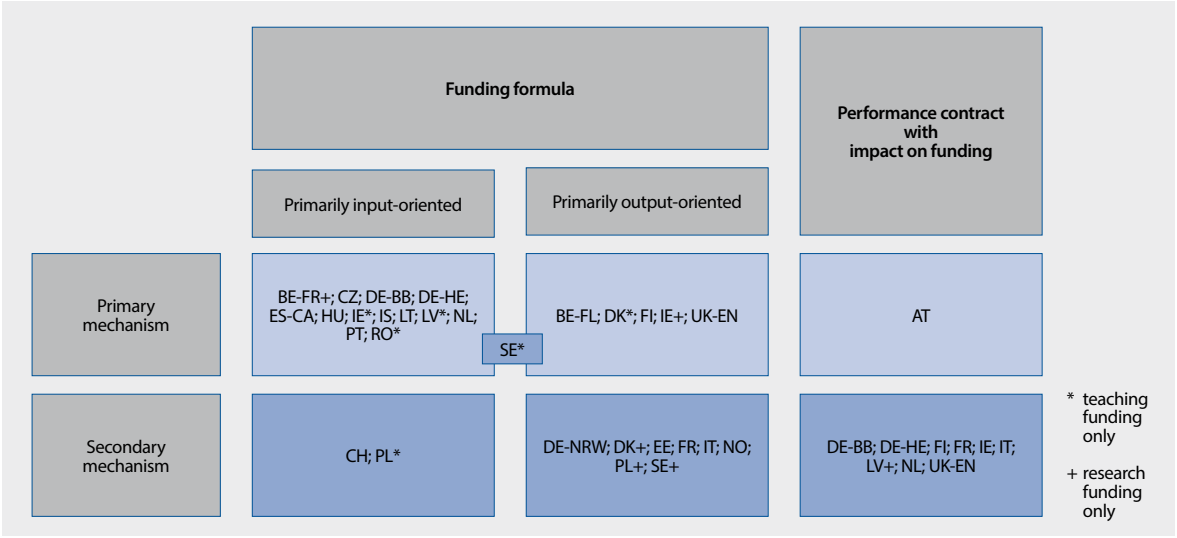
In Denmark, the development contracts are purposely not linked to funding, but they are nevertheless seen as an important steering mechanism, also by university management, as they can be used in discussions on the institutional strategy and internal funding allocation. In this case the impact on institutional management very much depends on the structure and the governance model of the institution. If it is an individual contract this is also the opportunity to create a dialogue between the ministry and the university and it can then be used as an effective management tool even if it is not directly linked to funding.

3.3 Overview of performance elements in block grant allocation

When looking at the overall allocation of block grants, it can be noted that a majority of systems consider their funding allocation mechanisms at least partially performance-based for teaching (via graduate-related criteria), with the most extensive case being Denmark, and partially or mainly performance-based for research, where indicators related to publications and external research funding are normally taken into account. However, Table 6 shows that a primarily input-based formula whereby the largest part of recurrent public funding is distributed in this form is the most common method of allocation which is

used by 13 of the systems considered in the study. It is often combined with other mechanisms such as performance contracts or budget negotiations and historical allocation.

Table 6: Performance elements in recurrent public funding for universities[15]



Due to the complexity of funding mechanisms across Europe it is, however, not possible to provide the exact share of funding linked to performance in each system. As illustrated by Table 6, one mechanism, whether it be a formula or a performance contract, often contains a mixture of different elements of which only some are linked to performance and which makes it difficult to disconnect them. A good example of this complexity is the performance contracts in Austria. They combine a budget negotiation with defining detailed individual objectives for a university and some targets and indicators to measure the achievement of broader education and research policy goals. This implies that even if the instrument is referred to as a performance contract, the provision of funding is not entirely dependent on performance.

In several systems the amount of funding allocated based on performance has been increasing over time. Here are some examples:

Example 10: Czech Republic – increasing the importance of performance elements

In the Czech Republic performance indicators were introduced into the funding formula in 2009. At first only 9% of public funding was allocated based on these indicators, but this share increased to 20%.

Out of this 20% of public funding, 39% is allocated based on performance in research and artistic activities (publications, patents, competitive grants obtained, income generated, artistic performance indicators). A further 34% is distributed according to the quality of studies and the employability of graduates (quality of staff and staff structure; employment rate 6 months/1 year after graduation) and an additional 27% is based on criteria linked to internationalisation and mobility (foreign students, international collaboration, student mobility of self-funded students).

Source: DEFINE Focus Group Feedback

[15] Sweden* is placed in the middle of two categories as half of the teaching funding is based on input indicators and half of it on output indicators, thus the formula for teaching funding is neither primarily input-oriented nor primarily output-oriented.

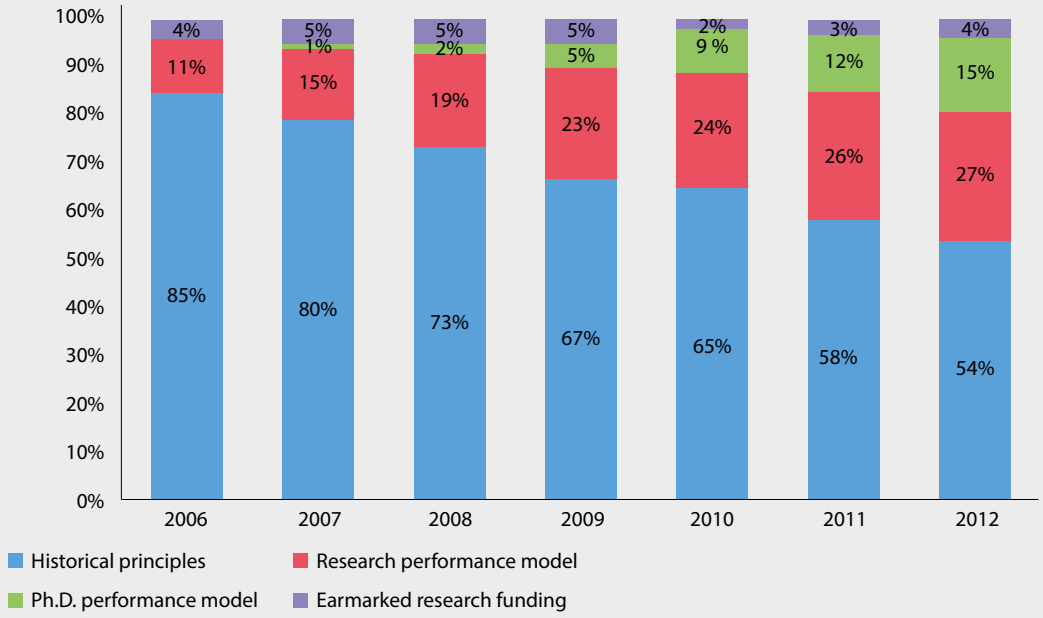
Example 11: Italy – increasing the share of performance-based funding

Criteria to distribute state funding	2013	2014	2020
Students' achievement Research evaluation	13,5%	17%	28%
Multiannual performance agreements	1%	1%	2%

Performance-based funding

Source: Italian Ministry for Education, Research and University

Example 12: Denmark – gradually increasing performance elements in basic research funding



Source: CBS DEFINE self-evaluation report (unpublished)

The system level analysis has shown that most countries in Europe allocate a certain amount of public funding based on performance. Although the importance of performance elements has been increasing in some systems (e.g. Czech Republic, Denmark, Italy) it varies considerably and in the large majority of systems only a small part of public funding is distributed according to performance. Input indicators remain very important, notably with regard to teaching, while output-based funding seems to be more common with regard to research activities.

4. The impact of performance-based funding

As already explained in the introduction the effects of performance-based funding and steering tools are contingent on the overall funding context of a specific university system as well as the characteristics of different institutions. This makes it challenging to draw general conclusions on the impact of performance-based funding. Nevertheless the data and case studies collected in the DEFINE project help identify a

few common challenges and risks associated with performance-based funding as well as opportunities it may offer both at system and institutional level. It is important to note that one mechanism or even one indicator can offer opportunities as well as bear challenges and risks.

4.1 Effects on enrolment, teaching quality and completion

Study completion criteria such as the number of Bachelor's and Master's degrees awarded are included in a formula with a view to fostering quicker graduation, increasing the completion rate and higher education attainment in general – a policy goal which is often expressed at national as well as European level.

Opportunities

In systems where universities are free to decide on student numbers, completion criteria linked to the number of graduates (not the graduation rate) provide a clear incentive to increase enrolment, so that universities offer as many study places as possible. This is also important because enrolment usually needs to be proportionally higher than the desired number of graduates due to students dropping out. This potentially leads to an increase in the number of study places available. According to the EUA University Autonomy Scorecard, however, only in eight out of 29 systems covered universities are completely free to decide on student numbers while in others different restrictions apply.

In contrast to input indicators such as student numbers, completion criteria have the advantage that they force institutions to focus on the end product of the teaching and learning process and certainly discourage institutions from keeping students enrolled as long as possible. This can be a driver for the development of measures that support students proceeding to graduation more quickly and to reduce the number of dropouts (e.g. tutoring, guidance and counselling, increased contact hours, etc.).

Challenges and risks

Increasing enrolment can be challenging for institutions given the limited space and facilities. In addition, completion criteria bear the risk of decreasing educational quality and standards to be able to produce more graduates in less time. As a consequence big lectures might be privileged over smaller seminars leading to less close contacts between professors and students.

4.2 Effects on research

Output indicators in research funding try to measure the productivity of an institution and its researchers, for example, through bibliometric criteria, the amount of external funding obtained, the number of contracts with business and industry, etc. The aims are often to reward high quality research and to foster the use of research results also outside of academia, as well as to encourage collaboration with external partners.

Opportunities

The above-mentioned indicators incentivise the dissemination of research results in academia (bibliometric criteria) and cooperation with external partners such as business and industry. The latter has not only the potential to foster knowledge transfer but helps to ensure that research results are used outside of academia and are relevant to other stakeholders which can enhance the impact of research on society.

Challenges and risks

Nevertheless, output-indicators in research funding combined with the tendency to give money to research units within an institution bears the risk of a "Matthew-effect" both at system as well as at institutional level where funding is given to those that already perform well and score high, while others will be further disadvantaged due to a lack of investment possibilities. This can potentially have strong profiling and differentiation effects if it is connected to a large level of funding.

Similarly, criteria focused on contract research with external partners tend to privilege applied research over basic and high risk research. Therefore it has to be made sure through other means that enough public funding is provided for this type of research.

Bibliometric criteria might represent a relatively easy way to measure research outputs, but their use is very controversial as they put much pressure on academics to publish early and frequently and thus have the potential to foster slicing of papers or name dropping and make academic staff privilege research over teaching. Furthermore they disadvantage certain disciplines, notably humanities, which traditionally have a lower research publishing rate than science subjects.

4.3 Effects on university governance and institutional autonomy

Opportunities

Notably performance contracts can be an opportunity to create an active dialogue between ministries and individual universities as equal partners and a way to align policy and implementation. Performance-based funding might help to focus institutional activities and thus support strategic planning and decision-making, therefore being a useful governance and management tool.

Challenges and risks

However, if performance-based funding is used as a strong steering tool to influence institutional behaviour and make universities perform towards externally set policy goals, it interferes with institutional autonomy which is one of the fundamental principles of European higher education systems. This risk is higher if a large share of funding is allocated based on performance, if universities are not involved in defining the goals and indicators towards which they are supposed to perform and if the same are applied to all institutions independently of their profile and specificities.

4.4 Effects on funding allocation and financial management

Opportunities

Performance indicators may increase the transparency in funding allocation provided they are understandable and of limited complexity. This can help institutions as well as public authorities to better plan funding allocation, work towards certain objectives, prioritise and increase efficiency. It can thus be useful to rationalise the distribution of public money to universities and to reward those institutions that perform well with regard to the indicators, provided additional money is attached to this.

With indicators linked to the amount of external funding obtained by an institution or the number of external research contracts, incentives can be set to foster the diversification of income streams which in principle can be positive for the financial sustainability of universities.

Challenges and risks

However, to use performance-based funding as an effective incentive mechanism for institutions to perform, it has to reward growth with regard to an indicator with additional money. This makes it challenging for public budgets that are usually pre-fixed. The principle of a closed envelope applied in most systems in Europe (see 3.1 Funding formulae) limits the incentive for institutions to enhance their performance e.g. by enrolling more students and producing more graduates as above a certain threshold the funding per unit (e.g. graduate) decreases. Furthermore performance-based funding based on the principle of a closed envelope also increases the competition between universities which can have negative effects on their willingness to cooperate in certain fields.

The strong past performance orientation of output-oriented funding also bears the risk of a Matthew-effect both at system as well as institutional level. Those who perform well receive more money and thus have a relatively better position to perform in the next period, while those who performed less well receive less money and are thus in a weaker position for the future. This can lead to a stronger differentiation of the institutional landscape.

This effect can be repeated at institutional level as the internal redistribution of funds is often strongly driven by the external allocation model, and also because the institutions try to maximise their public income. Furthermore the past performance orientation makes funding very volatile and does not leave much room for adaptation with buffer budgets becoming very small. In addition universities have a cost structure with a high amount of fixed costs such as staff salaries accounting on average for around two thirds of the overall expenditure (see Chapter 2.2 as of p. 15). This constellation limits the possibilities to invest in innovations such as new modes of teaching, new programmes or high risk research.

External funding, which may be acquired through research contracts with private partners, EU funds, or other types of competitive funding or philanthropic sources, appears quite frequently as an indicator in funding formulae, which in turn sets the value of the core funding that the university receives.

Creating a direct link between external funding and core funding may be used as an incentive for universities to actively develop partnerships and strengthen income diversification strategies. However, when using this it should be taken into account that external funding often offers only partial coverage of costs. Universities then need to bridge the gap with their core resources which can potentially increase the funding gap if there is no other mechanism to cover these costs.

The latter illustrates how important it is to take a holistic view on the overall funding system when introducing performance-based funding. The linkages between different funding streams and the ability of universities to manage those impact on the financial sustainability of individual institutions as well as the system as a whole.

4.5 The limits of performance-based funding

Apart from the opportunities, challenges and risks it is also important to highlight what performance-based funding cannot do, where its impact is limited and for which purposes other or additional policy tools might need to be considered.

In general, performance-based funding can have an impact on the educational and research offer of an institution, but its impact on the demand side is very limited.

As an example, a performance-based funding mechanism might be used to encourage institutions to offer more study places in certain fields e.g. through a relatively better cost coverage for graduates in this field. However, this incentive only functions if universities are free to decide on their student numbers, which is only the case in eight out of 29 systems in Europe included in EUA' s Autonomy Scorecard (Denmark, Ireland, Italy, Latvia, Luxembourg, Norway, Poland, Sweden).

It nevertheless has a very limited impact on students' choices of a specific subject area (the demand side) which can be influenced by multiple other factors (such as personal preferences, employment opportunities, social-economic background, specific financial support systems for students, etc.). Therefore performance-based funding alone does not seem to be an efficient tool to balance the lack of graduates and experts in certain fields such as STEM subjects.

Similarly, it is not sufficient to include study completion criteria in a funding formula in order to increase higher education attainment in general and shorten the time to graduation. The progression paths of students are influenced by multiple factors on which the institution has only limited impact in some cases. Even in the case of the Danish taximeter system, the most prominent and highly completion-focused funding mechanism, the effect on completion rates is unclear and difficult to disentangle from other influencing factors (e.g. when the completion bonus was introduced in the formula at the Copenhagen Business School, the Bachelor completion rates went up, but Masters completion rates went down).

Furthermore, performance-based funding has to be considered in the context of the broader regulatory framework in which universities operate. For example, in order to increase the number of international students and staff it is not sufficient to set financial incentives for this. Also the regulatory framework has to be favourable to facilitate, for instance, the recruitment of international staff.

These are just a few examples to illustrate that performance-based funding has its limits and its use should be considered in the context of other policy measures and tools.

5. Strategies and requirements for managing performance-based funding

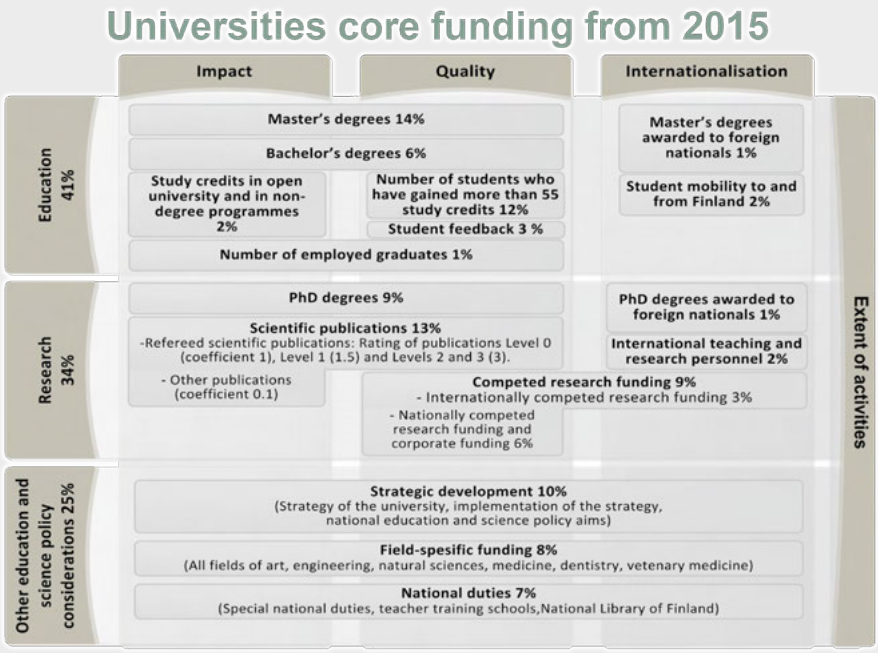
The following chapter presents strategies at system and institutional level to manage performance-based funding, use the opportunities it may offer and mitigate some of the risks and negative effects it may have. Wherever possible this is accompanied by examples that have been collected throughout the project.

Ensuring transparency of the funding system

Transparency is a key aspect of any efficient funding system and it is particularly important when it comes to allocating funds based on performance, no matter whether it is used as a steering and incentivising mechanism or simply for redistribution. A distribution mechanism should be transparent to ensure accountability of public spending and create a level playing field for the beneficiary institutions. Likewise, incentivising institutional behaviour only works if the mechanism is clear and understandable to the universities. An example of how to provide a transparent overview of funding allocation to universities comes from Finland.

Example 13: Overview of block grant allocation in Finland in 2015

In Finland core public funding is allocated to universities based on a formula, which includes strategic funding as well as the financing of education and research.



The government adopts a development plan for education, academic research and R&D every four years which outlines the policy for the following few years. Apart from the government programme, development plan and legislation, universities are governed by performance agreements concluded with the government.

Each university and the ministry conduct negotiations at the beginning of every three-year agreement term, in which operational and qualitative targets for the university, as well as the required resources, are determined. The agreement also provides for the monitoring and evaluation of target attainment and the development of operations.

In this model performance agreements and the funding formula with performance indicators are considered as complementary tools.

Source: Finnish Ministry of Education and Culture and Universities Finland (UNIFI)

Keeping the share of performance-based funding limited

A way to render funding less volatile is to balance output-indicators with more input/throughput-oriented indicators and to keep the share of funding that is allocated based on performance limited, concerning the overall amount of funding. In this regard it is interesting to note that in the majority of systems in Europe, including performance-based criteria, elements have been implemented to either guarantee a minimum level of funding to institutions or at least limit the loss for an institution to a certain percentage of the previous budget which increases predictability and helps financial planning which is important for the financial sustainability of the sector.

Taking account of the costs of universities' activities

Another way of fostering financial sustainability is to take into account the costs of universities' activities in the funding model. An example of how this can be done is the new Italian funding model whereby historical allocation is replaced by a calculation based on the standard cost per student.

Example 14: Italy – incorporating a standard cost per student

The Italian system to allocate public funding to universities is based on three main pillars: performance agreements, performance-based funding and historical allocation. The share of these three pillars has evolved over time. In 2012 the government decided to gradually increase the share of performance-based funding and performance agreements and to replace the historical allocation by an allocation based on the standard cost per student as of 2014. The aim is to mitigate inequalities of the historical allocation whereby universities of the same size and profile received different amounts of public funds per student in the standard period.

The standard cost per student is calculated taking into account different components linked to research and teaching (standard number of professors and researchers), administrative facilities and staff, cost of infrastructures, and other more specific aspects (tutors, experts, etc.).

Criteria to distribute state funding	2013	2014	2020	
Based on previous allocation	77,5%	74%	70%	Standard cost per student
Students' achievement	13,5%	17%	28%	Performance-based funding
Research evaluation				
Multiannual performance agreements	1%	1%	2%	
Other specific measures to increase quality and ensure sustainability of universities	8%	8%		
TOTAL	100%	100%	100%	

Source: Italian Ministry for Education, University and Research

Catering to the needs of different institutional profiles

A mechanism that relies heavily on one or a very small number of indicators/objectives has a stronger steering effect, but bears the danger of convergence of institutional profiles and thus contributes to the reduction of institutional diversity if most of the recurrent funding is allocated this way. This in turn can favour uniformisation of the system which is not considered adequate to respond to the increasingly diverse needs of modern knowledge economies and expectations from society towards universities. A performance-based funding mechanism with more indicators or objectives addressing different university activities might be more adequate to properly fund the broad mission of comprehensive universities (see also Dohmen 2014, p. 26).

Accounting for differences among disciplines

Similarly, performance-based funding mechanisms should account for different disciplines. To counterbalance the deficiencies of bibliometric criteria, discipline-specific criteria could be included in a formula. In France, for instance, the formula contains an indicator composed of the number of publishing researchers weighted according to the research area. In 2012 Flanders established its own bibliometrics database for humanities (in addition to the commonly used Web of Science database) the purpose of which is to help balance the disadvantage. Similar systems exist in Denmark and Norway.

Strengthening quality assurance

To prevent a decrease in quality both in teaching and research, effective quality assurance mechanisms are needed as well as a culture based on a strong academic ethos.[16] Teaching staff should not be put under pressure to lower the requirements so that students pass exams in order to achieve the desired completion rate. Therefore no direct link should be established between completion rates (e.g. for a specific course) and the career development of individual university teachers. Likewise the career development of a researcher should not exclusively depend on the number of publications.

Example 15: CBS – using ICT tools to ensure teaching quality

The Copenhagen Business School (CBS) is a teaching focused institution that receives the largest share of its funding from the Danish taximeter system based on study completion indicators. In Denmark universities have the autonomy to decide on student numbers and due to the incentives of the taximeter system institutions tend to maximise enrolment. In order to manage big lectures with a large audience and still keep contact with the students, some teaching staff at CBS use modern ICT tools, such as an electronic voting system whereby a lecturer can obtain immediate feedback from the students on the presentation and whether the content has been understood. This is one example of a concrete measure to ensure the quality of teaching under the constraints of the taximeter system.

Source: CBS DEFINE site visit report (unpublished)

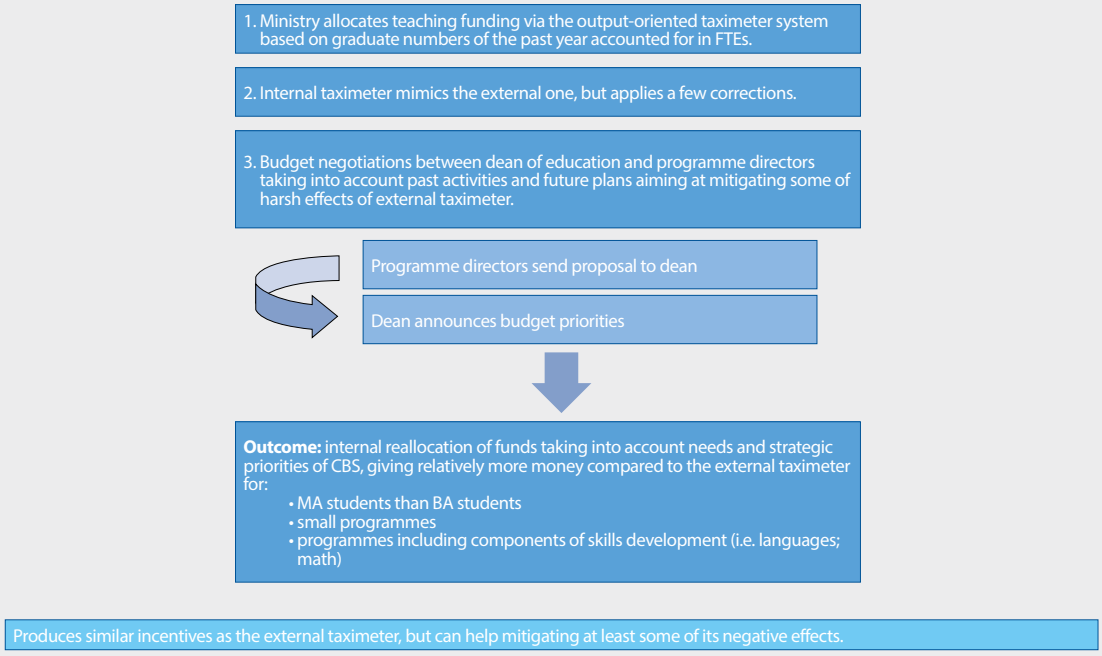
Developing a strategic approach towards internal funding allocation

In general the external funding model strongly drives internal allocation at institutional level. In order to tackle the challenges linked to performance-based funding and mitigate some of the unintended effects at institutional level a strong financial and strategic management is needed. The development of an internal funding allocation model for the distribution of funds to the sub-entities such as faculties or programmes according to own institutional priorities, can help to counterbalance some of the negative effects of the external funding mechanism. The internal allocation model should be set up according to the institutional structure, priorities and profile and the way the process should be organised is specific to each institution.

[16] For further information, please also see EUA's work on quality assurance.

Example 16: CBS – Internal funding allocation

Internal funding allocation for teaching at the Copenhagen Business School (CBS)



Source: CBS DEFINE site visit report (unpublished)

Whilst in smaller institutions a centralised approach (e.g. at the Copenhagen Business School, see Example 16) can work, this might be different for larger universities with more independent faculties.

Example 17: Indicators used in external and internal funding allocation at member universities of the U4 University Network (Vanden Berghe 2014)

	Ghent (BE-FL)		Groningen (NL)		Uppsala (SE)		Göttingen (DE)	
	EAS	IAS	EAS	IAS	EAS	IAS	EAS	IAS
Students/ECTS	■	■	■	■	■	■	■	■
ECTS obtained	■				■	■		
BA/MA degrees	■		■	■			■	
Foreign students		■					■	
Outgoing students		■					■	
PhD degree	■	■	■	■			■	
Publications	■	■			■	■		■

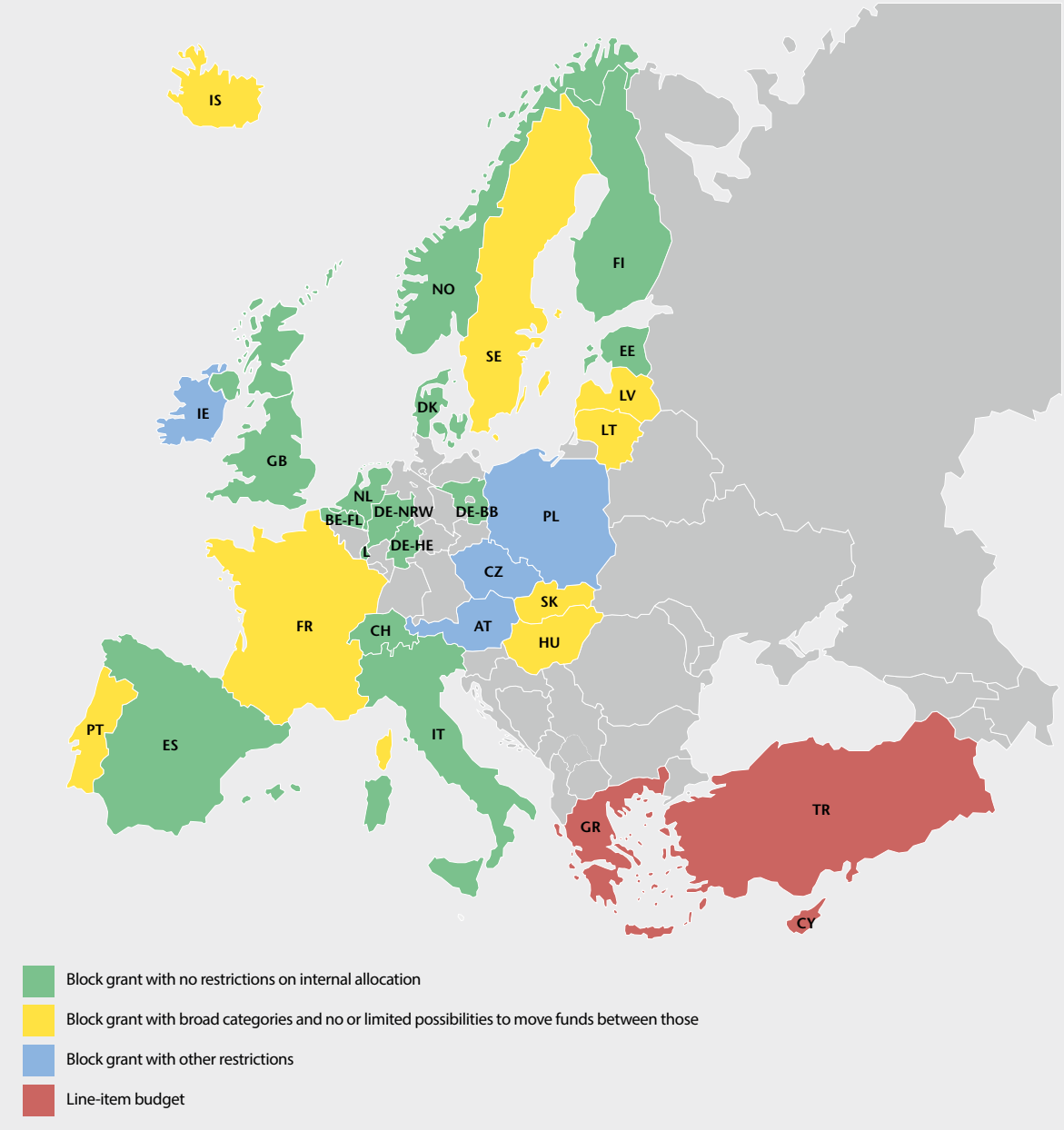
EAS = external allocation system IAS = internal allocation system

The data collected concerning the indicators of the formula also makes it possible to see in which areas the university scores higher, i.e. which activities bring in most funding. This can cause inter-institutional tensions, notably in cases where the internal allocation does not reflect the external scheme, but redistributes money, e.g. from teaching to research or from one discipline to another thus leading to cross-subsidising. Therefore strategic management and leadership are crucial with regard to the internal allocation as it has to balance institutional priorities with the need to secure a maximum amount of public funds, also taking into account the costs of different institutional activities.

Ensuring institutional autonomy as a pre-requisite

A pre-requisite to efficiently manage performance-based funding at institutional level and develop adequate strategies is sufficient institutional autonomy, not only as regards the use of funds, but also in other dimensions (academic, organisational and staffing). As shown in EUA' s autonomy scorecard in the majority of systems in Europe, universities are free to use the block grant according to their own discretion.[17] However, there are still eight countries (France, Hungary, Iceland, Latvia, Lithuania, Portugal, Slovakia, Sweden) where the block grant is split into broad categories and universities have no or limited possibilities to move funds between them.

Figure 7: Types of recurrent public funding (Estermann, Nokkala & Steinel 2011)



Universities that have the freedom to manage their funds can make the most efficient use of public money and redistribute it to their priority areas and institutional profile and thus adequately fulfil their mission.

[17] Brandenburg, Denmark, Estonia, Finland, Flanders, Hesse, Italy, Luxembourg, the Netherlands, North Rhine-Westphalia, Norway, Spain, Switzerland, United Kingdom.

6. Conclusions

The mapping shows that performance-based funding in one way or another exists in the majority of higher education systems in Europe, albeit to very different extents. Often even with so-called performance-based mechanisms, funding is not entirely based on performance, which makes it difficult to identify the exact share of performance-based funding in a system and to make inter-system comparisons.

The impact analysis illustrating opportunities and risks associated with performance-based funding emphasises that it must be used with caution. It can be one way to increase the transparency of funding allocation and thus the accountability of public spending. It might also support profiling and strategic positioning of higher education institutions, notably in the form of an individual performance contract. A pre-requisite for this is that universities are equal partners with the ministries in the process of designing the mechanism or concluding the contract and that a real dialogue takes place. The goals and indicators as well as the procedures have to be clear and not too complex, so that it can work as a fair and efficient distribution mechanism.

However, its effects are hard to control and are highly dependent on other factors such as the regulatory framework of a specific higher education system, the funding system and the share of funding allocated on the basis of performance as well as the institutional profile, income structure and internal management and governance. The concrete design and processes, as well as the implementation of the performance-based funding tools, also play a strong role in positive or negative effects. It is unsure and difficult to assess to what extent it helps raising the performance of universities with regard to teaching and research, due to the risks and unintended effects it can have. Therefore detailed steering through performance-based funding seems inadequate and would also undermine institutional autonomy. Furthermore the attainment of broader higher education and research policy goals does not only depend on institutional performance, but on multiple other factors as well. Therefore performance-based funding can never be the only way to achieve a certain policy goal and it needs to be considered in the wider context together with other incentives and support mechanisms.

Its share in the overall amount of public funding provided to universities should be limited so as not to endanger the institutions' financial sustainability. It should not be used to slice parts of the core funding, but rather to provide additional money. A sustainable university funding system needs to:

- take account of the costs of universities' activities that are to a high degree fixed (input);
- reward performance; and
- allow institutions to invest in their future.

Sufficient and stable public funding is indispensable for universities across Europe to fulfil their mission and public responsibility.

CHAPTER

2. UNIVERSITY MERGERS

1. Introduction

The present chapter focuses on mergers and concentration processes. These have been identified as a key issue for DEFINE because of their function in potentially increasing efficiency for higher education at both institutional and system level. The view that, by gaining mass, universities can find economies of scale and rationalise the use of resources, enabling them to function more cost-effectively, has been an important driver for merger and concentration processes. However, because of the scale and nature of the process, there is a lack of comprehensive evaluation at system and institutional level.

This chapter intends to provide a Europe-wide analysis of trends in merger processes. It begins with a comprehensive overview of the main trends in the development of merger and concentration processes from both a system-level and institutional perspective (see Mapping Mergers in Europe). It then proceeds to consider these trends from the angle of 'efficiency' (Delivering Efficiencies) and the different ways in which the process may be managed to achieve positive results (Managing the Process).

2. Mapping mergers in Europe

2.1 Scope and methodology

This chapter maps and analyses different merger and concentration processes across Europe with a particular focus on the efficiency aspects. This provides the basis for recommendations to policy makers and institutions.

There is a wide spectrum of collaboration projects and initiatives in place between European universities, from cooperation on research projects to complex merger processes. Moreover, these all have their own individual characteristics, depending on geographical and historical factors, as well as the types of institutions involved and the characteristics of systems in which they take place. Recommendations therefore need to take account of these specific settings, and cannot be applied uniformly.

This chapter focuses specifically on mergers. A ***merger*** is considered to have taken place when at least one institution has ceased to exist as a legal entity, having been incorporated into either a new or existent institution. The Higher Education Funding Council for England (HEFCE) places mergers at the so-called hard end of the "CAM spectrum" covering collaborations, alliances and mergers.[18] Collaborations, in this spectrum, are specific arrangements at institutional level, focused on a particular area, and encompass cooperation agreements, partnerships, and the creation of new entities such as joint institutes, schools

[18] HEFCE (2012)

or faculties. Alliances refer to broader collaboration forms, covering different areas, but where institutions continue to exist independently.

Collaborations and strategic alliances are referred to in this chapter where relevant, and can be considered as either steps towards or alternatives to the full merger processes analysed here. They can include the setting up of common structures encompassing (fully or partially) different institutions, or the creation of an external common body such as a shared doctoral school, or looser forms of strategic collaborations. It is worth noting that the development of measures such as purchasing consortia or shared services, often result from a strong efficiency rationale.

For the purposes of this chapter, a ***concentration measure*** is considered to be a system-level initiative leading to a reduction in the overall number of higher education institutions through conventional mergers, or seeking to consolidate the system via the creation of federations/regional "hubs", whereby a series of institutions are brought under the charge of a larger entity.

EUA has collected evidence from 25 higher education systems in preparing this chapter. In the first phase, data was collected through two questionnaires on efficient funding strategies, including questions on mergers and concentration processes, which were sent to National Rectors' Conferences (NRCs, see Appendix II).

The responses to these questionnaires were subsequently discussed by the EUA Council and further verified through a course of follow-up interviews with representatives from each NRC in spring 2014. In addition to this system-level perspective, an in-depth institutional case study of a merger process was compiled through a structured self-evaluation by the leadership and management team at Aalto University, Finland, one of the DEFINE project partners, and a subsequent site visit by the EUA project team.

Further important input to the analysis was provided through a focus group held at Aalto on 28-29 April 2014, at which university leaders and managers with experience of merger processes that had been identified through a call for expressions of interest, were invited to participate in in-depth discussions on various aspects of merger processes. A full list of institutions represented at this focus group can be found in Appendix II.

A further source of information was the 2nd EUA Funding Forum, which took place on 9-10 October 2014 at the University of Bergamo, Italy. This event gathered together members of the higher education funding community to look at the themes covered by the DEFINE project. Part of the programme was dedicated to mergers and concentration measures, at which institutional experts presented their research and experience.

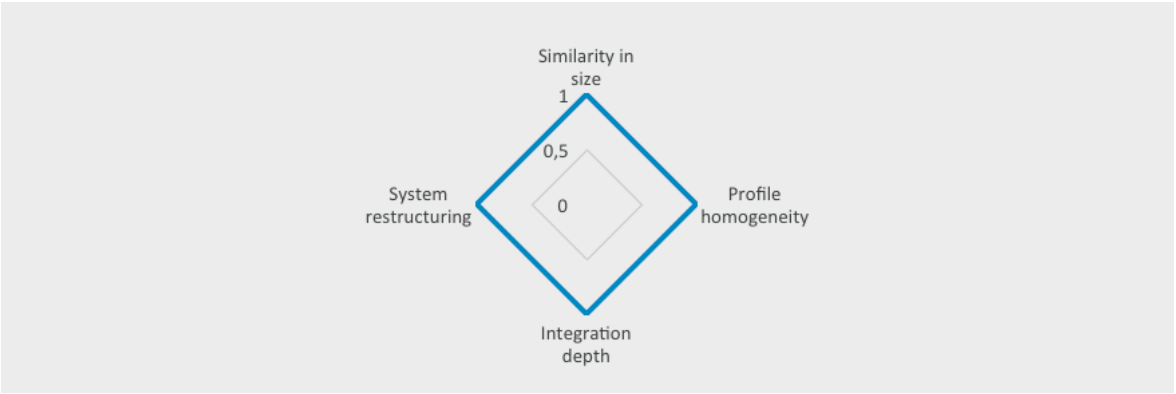
This chapter thus represents the project's findings resulting from a comprehensive data collection exercise. In order to collect information on a number of mergers across Europe, the timeframe[19] for inclusion in the data collection process was 2 000 to today.

2.2 Typologies of merger and concentration processes

First, it is important to clarify the notion of merger and concentration processes. As already mentioned, these come in many shapes and sizes. The following elements can be used to differentiate the different types of mergers and concentration processes, although it is not an exhaustive framework for conceptualising such processes (see Figure 8).

[19] However, the report refers to earlier individual processes in specific cases.

Figure 8: Simplified merger profile



A first distinguishing feature of such processes is the **relative size of the institutions involved**. Where mergers take place between similarly sized institutions, and for the purposes of this chapter, these are referred to as "***horizontal***" mergers. This has been the case in France, for example, where the recent round of large-scale university mergers has, for the most part, occurred between institutions that are of comparable scale. These lead to a particular set of questions, such as how to combine the universities' respective brands and resources, and tend to be very resource-intensive processes.

A different form is the "***vertical***" merger. This term denotes a merger of a relatively large institution with a significantly smaller counterpart, often an institution that specialises in a particular field. One example of this type of merger can be found at the University of Tallinn, Estonia which, since 2005, has merged with eight smaller institutes and colleges. These included public and private institutions, but which all specialise in one field (e.g. pedagogical studies, film and media). In such cases, the brand of the larger institution remains intact, with the smaller institution being "absorbed". Vertical mergers are therefore also sometimes referred to as "absorptions" in this chapter.

A second key feature is the **type of institutions involved** in the process, determining whether the merger is involving ***complementary or similar*** institutional profiles and/or statuses.

There are examples of numerous different types of higher education institutions that undergo merger processes, such as, but not limited to:

- Comprehensive universities (e.g. Växjö and Kalmar Universities to form Linnaeus University, Sweden);
- Universities of applied sciences and technical universities (e.g. the merger of Oslo and Akershus University Colleges, Norway);
- Research centres and specialist institutes (e.g. the Institute of Education, which merged with University College London in 2014);
- Private higher education providers (e.g. Vistula University and the Finance Academy in Poland).

Institutions with the same status may have different academic profiles, as for instance the three universities which merged to create the University of Strasbourg, France ("scientific disciplines", "humanities and social sciences", and "law, political science and technology").

It is clear that the combination of institutions involved has a significant impact on the process itself. For example, in mergers between universities that are highly complementary and where few programmes are duplicated, the impact on the staff numbers is likely to be lower. The combination of institutions will also determine decisions about branding. Therefore it is an important dimension when considering the wider topic of university mergers.

A third feature is the **depth of the integration process**. Institutions may decide to opt for comprehensive integration rather than a full merger, in which they retain their individual legal status but fall under a wider umbrella organisation in a federation model. This could be the purpose of strategic management or more practical matters such as sharing resources, and is normally undertaken by institutions within a certain region or geographical proximity. One example of this type of federative approach can be found in Italy, where six southern Italian institutions took the decision to form a university federation in 2011 or, in Spain, with the establishment of Ramon Llull University in Barcelona (see Example 18).

The process of "***clustering***" is closely related, albeit generally undertaken through a system-wide approach, and steered by the sector and public authorities. Through such initiatives, regional university networks are created out of the existing higher education landscape. In Flanders, Belgium, university associations were formed between universities and *hogescholen* (university colleges). This process has been highly complex to organise as it has been linked to the transfer of academic programmes from university colleges to universities, including students and staff (see Example 19).

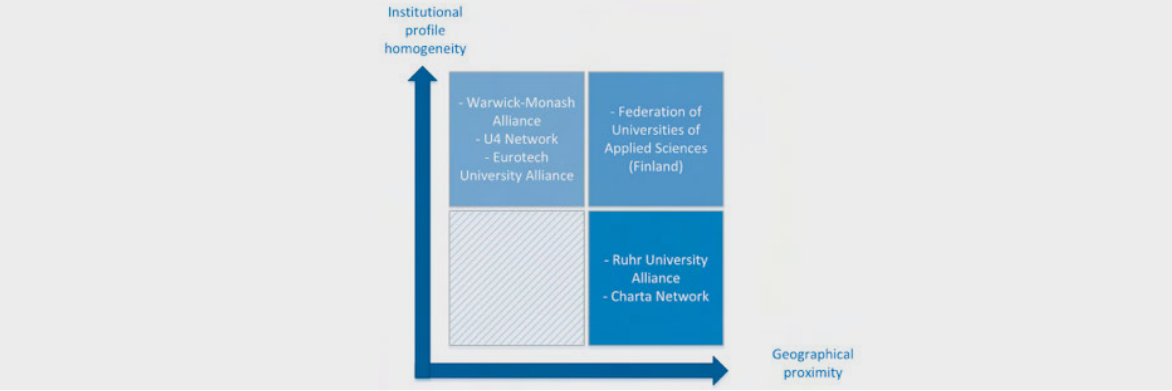
At the other end of the spectrum are full mergers whereby the institutions concerned consolidate their resources and become a single legal entity.

Outside of the scope of this chapter, ***hybrid cases of structured alliances*** can be found between individual institutions that go beyond targeted collaborative projects. These take on many configurations (see Figure 9), and can be organised on a geographical basis (for instance the Ruhr University Alliance in Germany, a shared brand for the three universities of the Ruhr region),[20] including across borders, as for instance the Charta network[21] in the "Greater Saar-Lor-Lux-Rhineland-Palatinate-Wallonia Region" bringing together 13 HEIs in a structured strategic collaboration framework). International collaborations may also be developed primarily on the basis of profile homogeneity, with less consideration for geography (Eurotech University Alliance or the U4 network, both involving four universities of similar profiles).

An atypical example is the alliance in place between the University of Warwick in the United Kingdom and Monash University in Australia.[22] In such a case, the geographical remoteness is shaped as an asset ("global alliance"). Both institutions collaborate further through joint investments, jointly appointed staff, research projects, academic collaboration and student activities. The management of the alliance is overseen by a joint academic vice-president.

Finally, alliances across institutions of similar profiles may be rooted in geographical proximity, as is the case for the Federation of Universities of Applied Sciences in Finland, uniting institutions based in the Helsinki metropolitan area.

Figure 9: Categorisation of a selection of structured alliances



[20] http://www.uaruhr.de/index_en.php
[21] http://www.charta-universities.eu/fr/a-propos-de-charte/f-was-ist-die-charta.html
[22] http://monashwarwick.org/

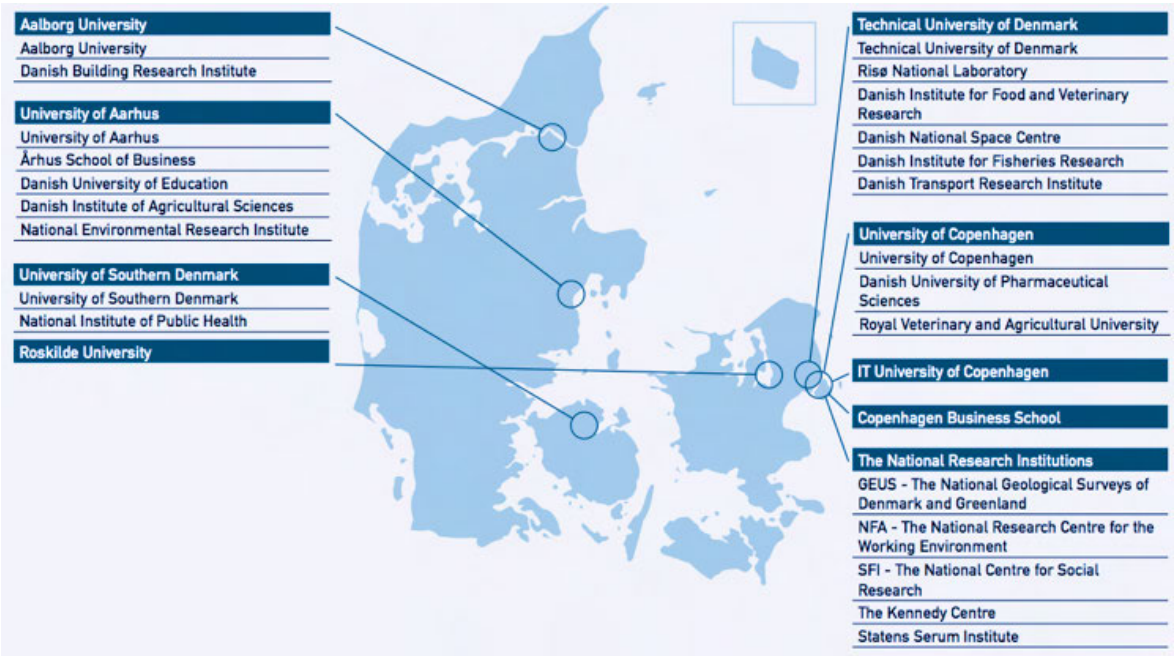
These structured collaborations are the result of narratives not dissimilar to those leading to full merger processes (see Section 2.4) with primary objectives linked to international visibility and critical mass. However, these collaborations may include a significant efficiency element.

The U4 network, for instance, has developed an "institutional management cluster", in the framework of which it completed a comparative study of the external and internal financing mechanisms across the four member universities with the aim to promote self-evaluation and exchange of good practices.

A final differentiating aspect is the existence of a connection of the merger to a **system-wide restructuring process**. Mergers may not have a relation to other higher education reform initiatives and take place in a primarily local context. One such example is the merger between the Victoria University of Manchester and the University of Manchester Institute of Science and Technology to form the University of Manchester in 2004. This was one of the largest university merger processes that has taken place in the United Kingdom, but it was not related to any wider restructuring process. On the other hand, public authorities in other systems have promoted mergers and concentration processes as a tool to accomplish a system-level reform of the higher education landscape. In Finland, for example, Aalto University was created as part of a highly funded government initiative to foster international excellence.

Denmark put in place an important system-level process which was completed in 2007, whereby several HEIs merged. From 12 full universities in 2003, the system is now composed of eight universities (see Figure 10). Massive merger processes also took place among university colleges. This system-wide process was embedded in a broader reform of the sector (set out in the 2003 University Act); the autonomy reform and the mergers were both components of the Danish authorities' strategy to further strengthen the university sector's global competitiveness. More precisely, the process involved two types of mergers; that of government research institutions into universities (complementary type), and mergers among universities themselves (similar type). According to the international panel that was tasked with evaluating the reform, "the mergers have created a new Danish 'map of universities and research'".[23]

Figure 10: Reorganisation of the Danish higher education & research landscape (2009)[24]



[23] http://ubst-ro.dav.rackhosting.com/The%20University%20Evaluation%202009%20Evaluation%20report/html/kap05.htm
[24] Ministry of Science, Technology and Innovation of Denmark. (2009): Danish University Evaluation 2009 – Evaluation Report, Annex 7 http://ufm.dk/filer/publikationer/2009/The%20University%20Evaluation%202009%20Evaluation%20report/html/kap06.htm

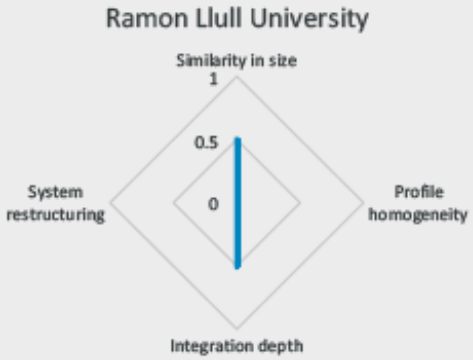
Example 18: The federative choice of Ramon Llull University

Ramon Llull University was formed by the merger of a network of Spanish higher education and research institutions in 1990. The process began around 1987 when some colleges in the area of Barcelona commenced discussions to create a new university. In 1989, the University's legal structure was registered as a Foundation, and in 1990 Ramon Llull University was formally established. It received the assent of the Catalan Parliament in 1991, enabling it to welcome its first student intake in the 1991-1992 academic year.

Ramon Llull University is a non-profit private university. The ten institutions that merged were small colleges covering a number of different academic fields, some of them with more than 50 years of history. Before the merger, these colleges had previously been affiliated with public universities in Catalonia, therefore including them into a private not-for-profit university presented specific challenges.

The institutions that founded the University were all keen to gain mass before the merger, but instead of pursuing their own individual projects aimed at institutional growth, they opted to unite their efforts and develop a common university project. Several years were needed to move from an "implicit strategy" (the sum of each federated institution's specialisations and characteristics) to a "common global strategy" for a coordinated, unique and shared project. The governance of the University has a federal structure; there is a central governing body which oversees the activities of the colleges, composed of representatives from the different institutions and other members representing civil society, while the colleges retain their own boards of trustees.

Financial economies were one of the most important aspects of the rationale for the merger. Due to their affiliation to public universities and the fact that they were all providing services individually, the potential for economies of scale through shared services was considerable. Indeed, evaluation has shown that the collective costs of the colleges have been reduced by a factor of ten due to the merger. This was a key justification for the sacrifice of autonomy by the colleges. However, this success has only been possible due to the improvement in quality that the merger has heralded.



Source: DEFINE Focus Group Feedback

Example 19: Clustering process in Flanders, Belgium

As from 2003-2004, a major restructuring of the higher education system (clustering) started with individual HEIs joining in five different "university associations". The aim was to bring together all university colleges around the five universities in order to prepare for a process that has been coined "academisation": bringing the two cycle study programmes in university colleges to an academic level.

As of 1 October 2013, the Flemish community includes 23 HEIs, organised in associations structured around the five universities: Antwerp, Ghent, Hasselt, Leuven (KUL), Brussels (VUB). The associations are based on the existing links among the HEIs, which only partly follow a geographical logic (regional collaborations).

The associations are umbrella legal entities whose basic mission (fostering research cooperation between the university and the university colleges) and governance structures are laid out in the relevant regulations; however, each association may decide on the internal modalities as well as how far it takes the cooperation/integration among its different units. Each association needs to reach a balance between the need to maintain a significant physical presence on its various campuses and limiting duplication.

While funding allocation remains at the level of each HEI, in certain cases specific research funding is allocated directly at the level of the association.

Flemish public authorities wished to address the issue of excessive fragmentation of the higher education sector, especially considering the comparatively small size of the Flemish system; it was felt necessary to bring more clarity into the system and to stop the academic drift of university colleges (by reallocating academic programmes to universities). This was coupled with the intention to promote entities of sufficient size to be visible and competitive in a European context.

The move has been perceived by all stakeholders as a necessity, despite the associated challenges. The restructuring is also believed to bring more transparency and more efficient allocation of resources.

Source: Flemish Interuniversity Council (VLIR)

2.3 Mapping university mergers in Europe

Since 2000, mergers or concentration processes have occurred or been discussed in a large majority of the systems analysed. However, the extent to which mergers are being undertaken or actively considered in different systems varies greatly.

In many countries, National Rectors' Conferences reported that over the period there have been significant discussions/processes around mergers and concentration measures in the higher education sector (for instance in Belgium, Croatia, Denmark, Estonia, Finland, France, Hungary, Latvia, Lithuania, Norway and Sweden).

In Hungary, a large-scale rationalisation process took place before 2000. The number of higher education institutions has been further consolidated since then to 28 (from around 50 in the 1990s, and 31 in 2000).

In Croatia, the discussion and processes largely took place before the period considered (mid-1990s), but the merging processes have resulted in the creation of three new universities in 2002, 2003 and 2006. It should be noted that this development intervenes in a traditionally fragmented system, where the four historical universities consist of highly independent faculties. Both models thus co-exist in the country (with federative or centralised management).

In Finland and Sweden, discussions and preparations have been ongoing, with several mergers having taken place in the last decade (and more mergers planned in the medium term). In Estonia, the number of higher education institutions has substantially decreased over the period 2000-2012 (from 41 to 29), due to a series of primarily vertical mergers and cases of closure (linked in part to a change in the accreditation system). The merger cases concern private universities, vocational education and professional education institutions (such as pedagogical colleges) being absorbed by existing public universities, which number remained unchanged over the full period.

From 2007 onwards, the number of mergers which could be recorded in this study has increased significantly. This is notably due to the wave of mergers in Denmark in 2007 and to a series of individual mergers taking place in different countries. Large-scale processes (in relation to the size of the system considered) can then be identified in Belgium, with a process over the period 2009-2011 in the French-speaking Community, and the setting up of "university associations" in 2013 in Flanders. Also outstanding is the evolution in France, which combines a series of individual mergers to the broader trend of establishing "university communities" (federative type of cooperation entities, being developed in 2014-2015), in parallel to the development of a national Excellence Initiative aimed at generating world-class universities and research centres. At a smaller scale, the three merger cases reported in Wales (UK) between 2010 and 2013 are very significant in relation to the size of the system, and are also a result of a strong political will, despite opposition from the sector (which led to a partial failure of the plan promoted by the authorities – see Section 2.5).

Finally, in Greece, an "Athena plan" foreseeing a series of mergers, closures and generally a rationalisation of the higher education system was discussed in 2012 in the wake of the economic crisis and implemented during 2013 and 2014, including a series of absorption processes of smaller institutions or departments by bigger HEIs.

In other countries, mergers have been a more isolated phenomenon (Czech Republic, Germany, Iceland, Italy, Poland, Portugal, and Slovakia). In England and Scotland, mergers may be qualified as "isolated" in the sense that there is no political agenda on the topic, although public authorities, funding bodies and the sector itself are seeking to enhance collaboration.

In other systems, although there may be a tendency to intensify collaboration between institutions in targeted fields such as research, no significant merger process has been reported. Other types of collaborations have been taking place, such as strategic alliances in the Netherlands. In Spain, fostering the pooling of resources through closer cooperation has been part of the government's higher education strategy since 2008. This entailed the creation of "campuses of international excellence" composed of several institutions, but has not led to mergers. It should be noted that in several European countries, the evolution of university mergers in recent years is indeed closely related to the development of national excellence initiatives.

In Germany and Austria, the number of public higher education institutions has actually increased, with the establishment of new universities of applied sciences (Germany) or medical universities (Austria) as separate institutions.

In Turkey, the higher education landscape is experiencing an expansionary phase, with many new institutions being established, so there is no consideration of consolidation through mergers at this point.

A comprehensive online tool mapping university mergers across Europe is under development by EUA and will be launched in 2015. The distribution of reported merger cases per country over the period analysed is summarised below (cases of institutions absorbing different entities in separate waves are counted as different merger processes). It is interesting to note both the continuous increase of merger cases reported and the more significant dispersion of cases across countries, in particular since the second half of the 2000s, showing that the phenomenon is of growing importance throughout Europe. Figures per country should be considered compared to the size of the system – four cases in Germany may be considered anecdotal, while four in Finland represent a structural change in the system. 2015 data is necessarily incomplete (only France has already reported cases for this year).

Table 7: Number of merger cases per system 2000-2015

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
BE-fl				1										5			6
BE-fr										2		2					4
DE				1		1				1				1			4
DK							2	5					1				8
EE	1	1	1			3	2		1		1		1				11
FI									1		2			1			4
FR										1			2	1	8	4	16
HR			1	1			1										3
HU									1	1			1				3
IE												1		1			2
IS									1								1
IT															1		1
LT											1						1
LV					1						1		1				3
NO										1		1		1	2		5
PL		1			1					1							3
PT														1			1
SE									1		1	1		1	1		5
SK						1											1
UK[25]			1		1			2			1	2	2		2		11
Total	**1**	**2**	**3**	**3**	**3**	**5**	**5**	**7**	**5**	**7**	**7**	**7**	**8**	**12**	**14**	**4**	**92**

2.4 Rationale and aims behind merger and concentration processes

There is a wide array of motivating factors for mergers as, by their nature, they affect every field of university activity. The identification of the specific rationales of the various cases is not always easy. The use of different sources has shown that there is rarely a single objective view of the drivers and rationales, depending on the constituency asked.

Indeed, National Rectors' Conferences involved in the DEFINE study refer to a combination of objectives for merger and concentration processes. Moreover, there may be a certain overlap between motivating

[25] Including cases from England, Wales and Scotland.

factors at system and at institutional level. However, the main points that were reported can be put into four categories as detailed below. It should be noted that the different drivers listed below are the ones that the National Rectors' Conferences most frequently cited; the order in which the drivers are listed is not meant to reflect their prevalence in any country. In addition, one should bear in mind that merger processes most often respond to their own particular combination of drivers.

i. **Increased quality** in both research and teaching activities was frequently mentioned by the National Rectors' Conferences consulted. Respondents universally stated that the potential improvement in academic quality and the advancement of strategic academic objectives should always figure highly when making the case for a university merger. This improvement may be derived from the pooling of academic talent and infrastructure, greater financial or staffing resources, and opportunities for interdisciplinary research with a wider variety of academic subject areas. Removing low quality programmes is a related aim, particularly in the framework of large-scale, system-level restructuring processes.

ii. **The realisation of economic gains**, such as economising financial and human resources, is a strong expectation mentioned in many systems across Europe. Increasing staff and student numbers was seen as advantageous from a financial perspective when it comes to strengthening institutions' bargaining positions with public authorities. In addition, the public funding mechanisms may favour larger institutions, notably as their critical mass increases, for instance in research. The potential to generate more revenues – whether from public or private sources – from a stronger and wider basis may also be a consideration. Likewise, there can be economies of scale in the provision of services, such as more efficient delivery of professional services, and possibilities for streamlining arising from the enlarged infrastructural stock.

    However, experience shows that economic gain should not be the primary driver for undertaking a merger process. The reasoning behind this is not purely derived from the primacy of universities' academic missions; even more fundamentally, mergers should not be seen as an effective way to save money in the short-term, given the high transition and implementation costs.

    These can stem from communication, infrastructure and process refinement costs that come as direct consequences of the decision to merge, in addition to the considerable human resource costs in planning and implementing the merger process itself. In some cases financial reasons never even figured as a driver in the process. Aalto University is a notable example of this, where the merger was driven by a desire "to add value, not to save money".

    Furthermore, merger and concentration processes tend to be long-term projects, making any favourable financial return a distant prospect. At Aalto University, the positive financial effects of the merger began to be felt four years after the formal completion of the process. For other institutions, it has taken even longer to see the benefits – in some cases up to 15 years.

    Finally, underpinning a merger with primarily economic arguments will not contribute to securing staff buy-in to the process, if there is no substantial academic case to back up the proposal. This is logical, given the primacy of academic objectives in university missions.

iii. **Consolidation of the system** is a general driver reported by several systems where merger processes have been organised in a "systematic" way, as for instance in Belgium/Flanders, Denmark, Finland, France, Hungary or Latvia. This comprises diverse motivations, including overcoming fragmentation, achieving critical mass, avoiding duplication of programmes, creating synergies (for instance by integrating universities and research centres) and reacting to the demographic decline (see Example 19).

iv. **Strengthening the institutional position**, for example, through increased regional and international competitiveness or a stronger position in relation to funders, was also frequently reported, with a series of systems specifically citing stronger research capacity as a reason (for instance in Germany, Poland, Portugal and Sweden).

Universities may see mergers as a means of gaining greater academic success and reputation through increased size and for instance the development of niche disciplines resulting from bringing different specialisations to collaborate more intensively. Merger processes, by rationalising the structures inherited from the founding institutions and removing duplication, may also help in eliminating programmes of insufficient quality. Internationalisation was another common theme, with mergers seen as an effective way of gaining a greater profile on the international stage. This can help universities to attract more staff and students from overseas, as well as giving added opportunities to undertake international collaboration.

v. **Geographical drivers** played a role in many cases, especially where higher education institutions tend to be smaller and more widely spread out. In the case of Norway, this inspired a push toward centralisation by government (see next section on public authority involvement). Complementarity of academic profiles between geographically close institutions can provide an even greater impetus; highly complementary institutions may merge without major alteration in terms of staff structures, while increasing the academic offer and the profile of the combined institutions.

   On top of these, historical interaction between institutions clearly plays a role. In these cases, mergers are evolutionary processes, starting out at less integrated levels of cooperation (e.g. consortia and partnerships) and moving towards full mergers.

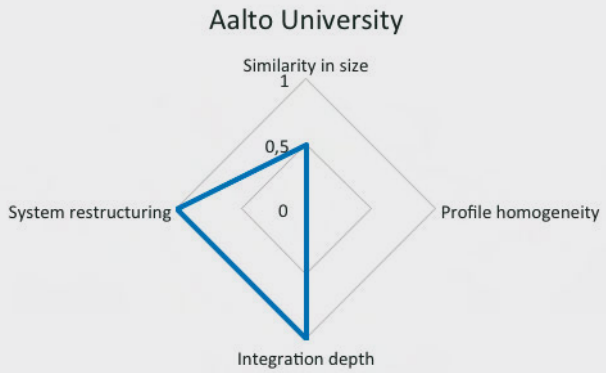
   The rationale behind university mergers typically consists of an assortment of drivers as outlined above, including academic factors (e.g. expected positive impact on research output and learning and teaching outcomes), organisational factors (e.g. redeployment of university structures) and financial factors (e.g. more efficient use of funding through economies of scale). Beyond those, it is important to take on board other key elements, such as internationalisation strategies or local considerations, in order to build a comprehensive business case to support a process that involves substantial upheaval. While academic reasons should lie at the forefront of such major restructuring initiatives, financial sustainability should nevertheless not be overlooked. It should be borne in mind that all of these aspects are closely scrutinised by members of the higher education funding community.

Example 20: Drivers of the Aalto University merger

The overview of the main drivers for university mergers in Finland, and especially the Aalto University merger, which is outlined below, shows that the merger responds to a combination of concerns/ opportunities, and that the creation of value is at the core:

1. *Responding to increasing requirements for critical mass and academic quality, clearly defined mission and internationally more attractive academic environment in higher education institutions.*
2. *Desire to enhance the competitiveness of the Finnish economy through stronger universities, based rather on their future innovation potential than the past performance of the merging universities.*
3. *Enhancing the quality of Finnish universities to meet globalisation challenges. In recent years, Finland had been losing ground particularly in research quality and the attractiveness of its research environments.*
4. *Increasing the government funding of Finnish universities closer to the funding levels in competing European universities.*
5. *Launching the university reform: removing the burden of heavy regulation and lack of autonomy in decision-making and financial issues, reforming management structures, relaxing recruitment practices, improving working environments and facilities as well as deteriorating infrastructure.*
6. *Diminishing the fragmentation of the Finnish university sector as there were as many as 20 universities in Finland before the university reform.*

It should be noted that in the case of the Aalto University merger, reaching financial synergies was not a main driver. It was recognised by all parties – government, universities and also business life – that major upgrading to the prevailing funding level was necessary to enable the new university to realistically reach the international top level in university education and research in selected fields. Due to the expressed purpose of the merger and heavy financial investments by both the government and private business, foundations and individuals, the formation of Aalto University should not be seen only as a merger, but also as an excellence scheme.



Source: Aalto University DEFINE self-evaluation report (unpublished)

2.5 Involvement of public authorities

Through its work on university governance,[26] EUA has previously demonstrated the merits of institutional autonomy. This includes an organisational dimension – in particular, the freedom for a university to set its own structures, processes and strategy. In line with this, universities are best placed to identify their own needs and develop strategies accordingly, including exploring and instigating merger processes if deemed appropriate, rather than having wide-scale reorganisation imposed in a top-down fashion. However, public authorities have a role to play in these processes; the government's responsibility is to provide a political vision and a structure for the system that will enable it to meet agreed objectives over the long term. The sector and the public authorities need to set up the framework for an in-depth dialogue on such important questions as rationalisation and consolidation of the system.

Consequentially, it is often difficult to identify which actors initiate or drive merger processes and concentration measures, because of the multitude of perspectives that surround these iterative processes. In this sense, it is not always possible to state conclusively which actors were dominant in a given process. However, in certain cases it is clear that public authorities took a stronger or weaker role. In the data collection process, this line of enquiry was pursued to understand the impact of differing levels of public authority involvement on merger processes.

As previously explained, in certain systems, mergers and concentration measures have formed an instrumental part of a top-down, system-wide reorganisation. This includes various different methods such as using legislative reforms and obliging or incentivising institutions through financial or academic means. Elsewhere, universities have developed their own merger initiatives outside of any government agenda-setting initiative, and in some cases had to convince public authorities to obtain the authorisation to proceed. The dynamics between institutions and public authorities are unique to each process; it may even

[26] http://www.eua.be/eua-work-and-policy-area/governance-autonomy-and-funding/governance-autonomy.aspx

be observed that top-down and bottom-up logics co-exist within the same systems. However, regardless of their level of involvement in the actual process, public authorities set the regulatory frameworks that enable or inhibit institutional mergers. The Dutch "merger control" law *(Wet Fusietoets)* passed in 2011 is an example of a regulation that favours "small-scale education".

The following table (Table 8) details some of the ways that public authorities may interact in the process.

Table 8: Position of public authorities in merger processes

Approval	Encouragement/support	Obligation
"Non-obstruction"	Academic incentives	Legislative requirement
Passive approach	Financial support	
	Political imperative	

There are numerous examples of joint approaches between universities and public authorities. In these cases, public authorities often lay down the legislative framework or provide additional funding for the process, while leaving institutions to define the details and structure of the process for themselves. In Flanders, Belgium, the process was set out by the regional government, who developed a plan to create regional "hub" universities. Driven by a desire to streamline their higher education system and address the low proportion of university entrants relative to the *hogescholen* (universities of applied sciences), the Flemish regional government embarked on a system-wide concentration process in coordination with the universities. This involved the creation of five higher education "associations", each consisting of a hub university and a varying number of technical colleges. It also involved the transfer of a large number of university-level Bachelor's and Master's courses from technical colleges to universities ("academisation").

The ongoing merger processes in France are another illustration of the multi-faceted interaction between universities and public authorities. Since 2007, the latter have orchestrated a general reorganisation of the higher education and research landscape in the country. Several initiatives, including large-scale investment accompanied by legislative reforms, have been implemented in order to achieve greater visibility and competitiveness in the sector. Some high-profile university mergers, such as that of the University of Strasbourg (2006-2009), are embedded in these developments, while remaining primarily bottom-up undertakings. These pioneering universities have set a precedent for a larger wave of mergers in the 2010s, with a stronger impetus from public authorities. The government made it mandatory for universities to group into "University Communities", paving the way for more far-reaching – and voluntary – merger processes. Therefore, in the French case, mergers are also closely linked to the Excellence Initiative as a policy tool (see Chapter 3).

It is to be noted that in both these cases, collaboration between universities and public authorities led to largely satisfactory results for both parties, with plans gaining both the support of public bodies and significant buy-in from the university communities, leading to a high success rate (at least in terms of completion of the process).

Where public authorities contribute funding to the process, new facilities and capital investment can act as a powerful incentive. Other systems in which merger processes have been jointly led by universities and public authorities include Denmark, Estonia, Finland and Ireland.

Wales provides one example of close public authority involvement in directing the reconfiguration of higher education. In the period from 2003 to 2012 the Higher Education policy of the Welsh Government was driven by the wish to reduce the number of universities in Wales and as a consequence foster mergers

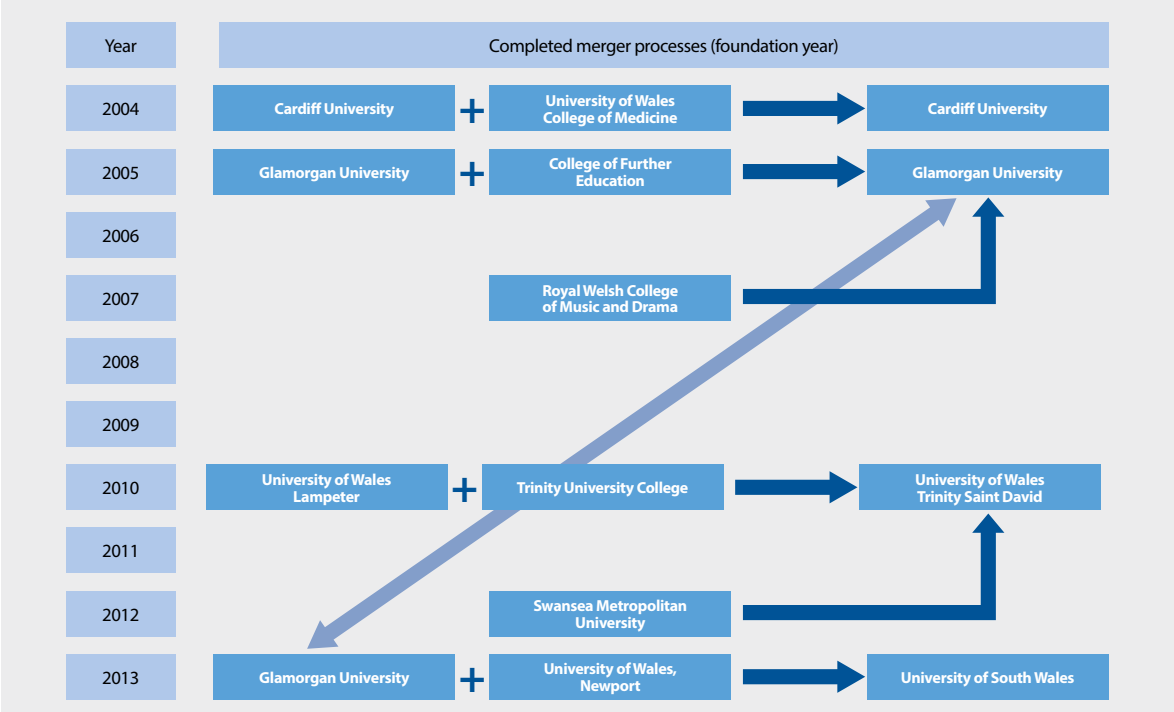
in the sector (see Figure 11). Whilst the broad objective of reducing the number of universities in Wales was eventually achieved, resulting in the establishment of the University of South Wales and the University of Wales Trinity Saint David, repeated attempts by the public authorities to direct Cardiff Metropolitan University to merge proved unsuccessful (see Table 9). This can be attributed to the absence of a compelling business case to convince students, university governance and management of the added value of the merger and the resulting loss of autonomy. In other cases, top-down vertical mergers may be a common feature in the system. In Latvia for instance, there have been six absorptions of small specialist colleges by larger universities at the request of public authorities since 2000. However, as previously mentioned it is important that universities are given the means to determine their own strategies, especially when it comes to mergers. In the case of Cardiff Metropolitan University institutional autonomy enabled it to oppose sub-optimal merger plans. Public authorities should consider setting up incentives to support merger processes if this is the retained mechanism for achieving the political vision for the system. Efforts should be made to seek synergies between such system-level political objectives and institutional strategies.

Table 9: Discontinued merger explorations at Cardiff Metropolitan University

2003	Discontinued merger exploration between UWIC (University of Wales Institute Cardiff, previous name of Cardiff Metropolitan University) and University of Glamorgan
2005	Discontinued merger exploration between UWIC and University of Wales, Newport
2010	Discontinued merger exploration between UWIC, University of Wales, University of Wales, Trinity St David and Swansea Metropolitan University
2012	Cardiff Metropolitan University rejects Welsh Government proposals for a merger with University of Wales, Newport and University of Glamorgan

More information on university autonomy in Europe can be found via the EUA Autonomy Scorecard report and online tool.[27]

Figure 11: Overview of system restructuring in Wales[28]



[27] http://www.university-autonomy.eu/about/

[28] Own elaboration using data available from UK's Higher Education Statistics Agency on HE provider changes: https://www.hesa.ac.uk/content/view/2884/141/

In other systems, merger processes have been led by institutions themselves, even though the decision normally requires government ratification. In Sweden, the horizontal merger of Linnaeus University came to fruition thanks to a joint initiative led by the two founding institutions. In Norway, the government legislated to introduce a minimum size for universities, stimulating institutions to consider mergers. However, the mergers that did take place, such as the creation of the University of Tromsø – the Arctic University of Norway, were voluntary and public authorities did not play a strong role in the process. During spring 2015, the government released a white paper on further restructuring of higher education and research in Norway, after consultation with the sector. The paper outlines the vision for the future of the sector and supports the decision of twelve institutions to merge voluntarily into five by 2016. These processes mainly concern university colleges merging into universities (including the Norwegian University of Science and Technology, the University of Stavanger and the University of Tromsø) or into larger university colleges.

The Norwegian research institute sector is also expected to undergo similar developments, possibly involving institutes merging into universities. It is worth noting that the Norwegian government is setting aside funds to support these mergers (about 9 million Euro in 2015, with more funds expected in 2016).

At the other extreme, the merger between the University of Lisbon and Technical University of Lisbon took place without any encouragement from the public authorities. The executive leaders of the two institutions had to actively convince representatives of the Government and Ministry to secure their approval. There was particular pressure to justify the costs involved in the process at a time when public funding for Portuguese universities was falling. Therefore in this case, the financial case for the merger took on added importance.

There is clearly a high variation in the level of involvement of different national public authorities, with some taking a more pro-active role and others leaving institutions to lead the process. However, in a majority of cases investigated the common perception was one of joint "driving" between public authorities and universities.

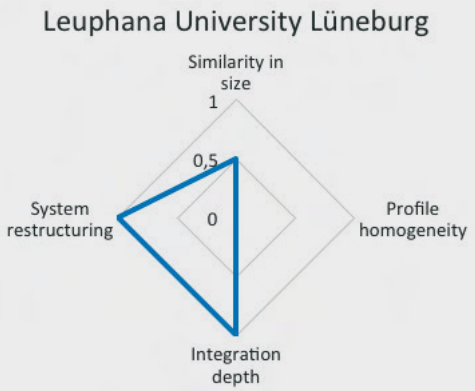
Example 21: Leuphana University Lüneburg

The University of Lüneburg and the University of Applied Sciences of North-East Lower Saxony officially merged on 1 January 2005 into the Leuphana University Lüneburg.

The merger was embedded in the political "concept of optimising HEI structures in Lower Saxony". The structural decision was based mainly on an external fundamental evaluation of research performances of the Lower Saxonian HEI (starting at the end of the 1990s). Lower Saxony was the first region in Germany to introduce a system of continuous research evaluations. Additionally, the Lower-Saxonian government wished to reduce the number of HEI campuses for economic reasons. Based on this political strategy and the outcomes of the research evaluation, the decision was made to merge the University and the University of Applied Sciences in order to maintain a HEI in this part of the region.

Partners presented different academic profiles and were part of two separate HEI systems. The formal structure of the new university was set by a particular law setting the frame for a so-called "model university". The draft was extensively discussed by the government and the two boards of the universities, and the law was unanimously adopted by the Lower-Saxonian Parliament. The strong political, top-down impulse given to the merger created challenges in the management of the process and in the communication towards the different constituencies of the institution. However,

the fact that the merger was urged by the public authorities also meant that it benefited from favourable regulatory frameworks, with the new university being given the status of Foundation under public law, which guaranteed a higher level of autonomy.



Source: DEFINE Focus Group Feedback

Public authorities and institutions should seek synergies between the system-level political vision and institutional strategies, in a framework that respects university autonomy.

Public authorities should recognise that merger processes require significant upfront investments and support the merging institutions by 1) setting up an enabling framework, 2) creating appropriate incentives, and 3) allocating extra funding to meet the costs of the transition.

University leaders should develop a clear narrative for the merger, focusing on the added value for the institution, staff and students, and society. A positive and ambitious vision should be put forward. Merger processes cannot and should not be driven by financial reasons alone.

3. Delivering efficiencies?

The question of efficiency in higher education, and in particular in higher education management, is a multi-fold concept that goes beyond financial matters and relates to the way in which universities carry out their core missions. However, efficiencies – in the sense of better use of financial resources – may be derived from a wide set of measures. Possibilities include, but are not limited to, the pooling of infrastructure, streamlining the workforce, process refinement and improvement, and enhanced funding potential.

As previously mentioned, one of the possible motivating factors behind the decision to undertake a merger process is that they are seen as a way of providing financial gains by delivering university activities more efficiently, albeit secondary to academic objectives. But is this a realistic ambition? It should be noted that there are some limitations in the evidence available relating to efficiencies derived from mergers. Firstly, there are long lead times when it comes to the implementation of mergers, and even when the processes have been completed, the real financial and institutional effects of the transformation may take some years to become fully apparent. Therefore, even for mergers that took place towards the beginning of the period surveyed, it may be difficult to discern conclusively where efficiencies have been delivered. Secondly, in many cases, no thorough evaluation of the process is carried out to identify such efficiencies precisely because it is seen as a one-off transformation, rather than a learning process. Finally, actors of

the process may set deliberately high objectives in this regard in the planning phase in order to further support the case for the merger.

This section focuses on approaches taken by institutions involved in a merger process towards the question of efficiency. Most stakeholders tend to underline the added value generated by the merger; undertaking a sophisticated ex-ante assessment of costs, and possible gains, is a difficult exercise – and so is a real ex-post evaluation, in particular as the need for it may not be strongly felt.

3.1 Creating value

It bears repeating that enhancing academic excellence should remain the primary objective in any merger or concentration process. Meeting this objective requires significant resources and investment. However, once achieved, improved quality can lead to delivering efficiencies. Consolidating and improving quality on both an institutional and system-wide level is likely to have a positive knock-on effect on funding possibilities by enhancing the profile, perception and reputation of the higher education institutions at different levels. This can improve the institutions' chances of success in securing competitive funding and strengthening their bargaining position with public authorities. In this sense it is a virtuous circle; enhancing quality through mergers creates more opportunities for greater efficiency.

Mergers can help improve academic quality in various ways, as outlined in the previous part of the chapter. This includes consolidating the institutions' academic offer; helping universities to attain a "critical mass" in their research activities that enables them to increase these activities at a faster rate; enhancing international visibility and bringing more opportunities for partnership work; improving attractiveness to both potential staff and students; and, on a system level, reducing fragmentation. There are numerous examples of where this has been achieved.

Example 22: The University of Lisbon

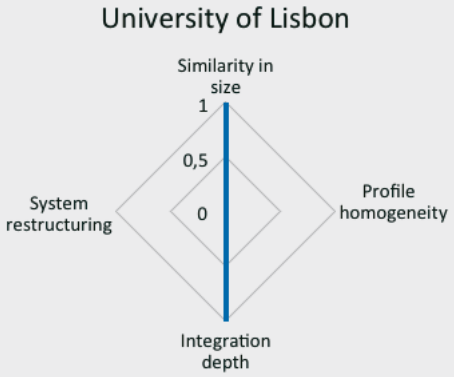
The merger (2012-2013) involved the University of Lisbon and the Technical University of Lisbon, which are partners of equivalent size. Both universities were research universities, but each of them focused on certain academic fields in such a way that there was strong complementarity between the partners with minimal overlap.

Expected gains:

- Research: complementarity expected to build a large space of knowledge production and research in frontier areas, reinforcing convergence initiatives and transversal "communities of practice".
- Learning and teaching: better articulation of the educational offer, opening of new pathways for training in a context of mobility of staff and students and creation of joint programmes.
- Services: expected gains in efficiency and scope, especially in science management, support of internationalisation, technology transfer and support to students and graduates.
- Relationship with community and public authorities: improved connection to the city of Lisbon and the promotion of cultural, artistic and sports activities as well as improvement of social action; increased capacity for social and political influence and increased bargaining power with public and private entities.
- Internationalisation: enhanced potential for new educational and research initiatives for a more effective presence in the world, including in the Portuguese-speaking countries and emerging countries in Africa, Asia and Latin America.

Challenges identified:

- Organisation: risk of a "business-as-usual" approach in a more complex and larger institution, subject to greater bureaucratisation.
- Autonomy: need to preserve the necessary degree of organisational autonomy for the merged units and protect academic freedom.
- Government: need to find the right balance between the principles of autonomy, subsidiarity and complementarity, which inform the choice of governance model.
- Dispersion: risk related to the geographic dispersion of the campuses, hindering integration, efficiency of management and procedures and mobility of staff and students.
- Paralysis: risk of dissipating energy in the internal organisation, neglecting the strategic objectives of outsourcing of activities of the new university.



Source: DEFINE Focus Group Feedback

3.2 Assessing costs and gains

A strong academic rationale for merging must be backed up by a solid economic case. Both elements are essential pillars of a successful merger. It is important to enter a merger process with an understanding of the implementation costs involved, as these are often considerable, particularly in the case of large-scale horizontal mergers. The transition phase is for instance a particular aspect to consider in this regard. It is clear that the length of the transition period required for fully implementing and embedding processes following mergers is difficult to apprehend. Many institutions involved in mergers underestimated how long it would take to mainstream procedural change (e.g. HR and finance processes) and establish cultural change.

Underestimating the duration of the transition period leads to allocating too little time and resources to complete all the work as envisaged in the plan. This has a knock-on effect on the delivery of efficiencies.

However, identifying costs can be extremely difficult to do with any degree of certainty.

The approach taken in the different cases analysed in the framework of this study can be categorised as follows:

- **Estimate the cost curve:** a cost analysis carried out during the planning process, on the basis of estimations rather than a real analysis, e.g. anticipating that administration costs would rise by a certain percentage in the first years.

- **Identify economies:** for instance in the use of pooled infrastructure, or by streamlining the workforce in "duplicated" areas (e.g. in services).

- **Balance costs and savings:** instead of a full cost analysis, some institutions instigated a principle of limiting costs wherever necessary. This meant that where costs were incurred, efforts were made to find equivalent savings elsewhere.

- **Estimate the losses incurred by "business as usual" approach:** a different spin on the costing process may also be taken by the university leadership; rather than placing emphasis on what could be gained by undertaking the process, specific attention may be paid to how the institutions would lose out if they carried on with "business as usual". IT infrastructure is an example of this; while a merger process normally requires extensive investment in IT to bring together the different systems, this might have to happen in any case at individual institutions needing to upgrade their infrastructures. Therefore, it may be adjudged that the larger investment in a combined system brings real economies of scale.

The importance of calculating costs, however this is carried out, is linked to the risk that resources can be diverted from the fundamental university missions; indeed, it is this threat which makes it crucial to prioritise academic considerations in the merger rationale. Throughout the process, it is important to try and mitigate the impact of this diversion of resources wherever possible.

It should be established (and communicated) at the outset of the process that some degree of diversion might be unavoidable and justified by the achievement of the academic goals upon completion of the process. Indeed, a merger that saves money for the institutions but does not contribute to the academic missions cannot be described as "cost-effective". The level of external funding committed to the project can contribute to addressing such a challenge; merger projects that receive backing from government divert potentially less resources from key teaching and research activities. Indeed, it is worth reiterating that wherever additional finance has been provided to support merger and concentration initiatives, it has been with a strategic view to improving academic quality (e.g. in France), rather than in search of financial efficiencies.

Overall, it is of paramount importance to give full consideration to the **opportunity costs** of a merger process and assess those against the cost of a "business-as-usual" approach. Given the significant amount of time and investment demanded by a merger, it is necessary to consider how these resources could otherwise be spent. A particularly important aspect of this is how much time academic staff with management duties might spend on the process and how this could affect their teaching and research activities.

If this is deemed to be unjustifiable in light of the potential benefits of the process, then the merger process should not proceed. Instead, the whole range of collaboration and cooperation possibilities (such as strategic alliances, joint programmes, etc.) should be reviewed to establish which would be the best option for the institutions concerned.

Example 23: Resourcing the Aalto University merger

In connection with the formation of Aalto University, significant financial investments were made to ensure the university could deliver the expected results. The government committed to **additional annual funding** of up to 100 million Euro until the end of 2015. The additional funding commitment was to increase the university funding base for the integration phase of the university. In addition, the university continued to receive the regular funding from the state budget according to the new performance based funding formula. No tuition fees were introduced in Finland during the reform.

The government also committed to support the ***formation of endowment capital*** of the university, along with other Finnish universities, by supporting the fundraising activities in two ways.
The first was a commitment from the government to invest 2.5 times the donations that the universities were able to collect from the Finnish private sector and private persons. Aalto University succeeded in raising 200 million Euro and was thus given government capital investment of 500 million Euro in return. Thus the university has a 700 million Euro endowment capital where the return of the capital can be freely used for funding the university operation. In addition, as part of the 2010 university reform, the state gave as initial working capital to all universities two-thirds of the shares in companies that own university buildings and land (previously owned by the state directly). Universities also received ownership of all other properties such as equipment, IT infrastructures, etc.
The second way of supporting the fundraising effort was the **tax deductibility** of the donations to the university sector, which was a significant incentive for the donors.

Source: Aalto University DEFINE self-evaluation report (unpublished)

3.3 The challenge of evaluation

Evaluating merger processes is a requirement for identifying where efficiencies have been achieved and for capturing success stories that will help to consolidate a positive post-merger narrative. However, as mentioned above, since mergers are transformational processes that are seldom repeated at the same institutions, it is understandable that often these evaluations do not focus on failures or elements that could be improved, because there is no practical way for the concerned institution to benefit from this knowledge. Therefore, a range of evaluation approaches to merger processes, with different objectives, can be found across Europe.

- **Comprehensive evaluations** are more commonly found where there was a sector-wide restructuring initiative driven by public authorities, such as in Denmark where government research institutes were integrated into the university sector while several mergers between universities took place. Following the completion of this initiative, the government organised an evaluation led by international higher education experts. This was a highly resourced undertaking, with the evaluation being carried out over a 12-month period in 2008 and 2009. It took into account a wide range of aspects of the process and made a number of forward-looking recommendations for how Danish universities can further capitalise on the opportunities provided by this new landscape. These focused primarily on research and teaching outcomes, but also featured organisational and financial topics, such as strategies for building greater industrial investment in newly-merged institutions. Given the expense that it entails, this type of large-scale international evaluation is not feasible in every case, but is a necessary step where merger processes form part of a wider system-level reform.

- Short of a comprehensive evaluation, many universities carry out **benchmarking** to chart their progress (linking to the previously mentioned importance of identifying effective performance indicators). This can be especially relevant in the case of horizontal mergers that are made to raise the institutional profile. International rankings are sometimes used to provide this type of benchmarking, although much caution should be exercised when relying on rankings with diverse and varying assessment criteria for such an important exercise (see EUA's work on the impact of rankings on institutional strategies – EUA, 2014). Other performance indicators relating to funding and student numbers have also been used to this effect.

- In some cases, the focus of the evaluation was the **staff experience,** collected through surveys and focus groups. Indeed, the main motivation for such evaluation was not to justify the merger through statistics, but to create a narrative of success for the whole process.

  However, given the constantly evolving nature of the higher education sector (such as the growth in internationalisation over recent years), previous indicators can become redundant, especially when mergers are measured over such a long period of time, and therefore they should be periodically reviewed.

  An overarching theme here is the importance of retaining a forward-looking perspective, rather than looking back at *faits accomplis*. This may translate into the setting up of a structure where senior managers periodically meet with staff to reflect on the process and identify new opportunities, encapsulating this positive focus.

  Another approach to evaluation is to implement continuous assessment of the process. This enables the new institution to "fine-tune" itself and make small adjustments to structures and processes after implementation. This can be done by holding regular catch-up meetings with key stakeholders at different levels and in different fields.

  University leaders and managers may also consider that an evaluation of the process is neither appropriate nor necessary; in these situations, the merger is viewed more as a transformational process which would not benefit from ex-post assessment. There may be several reasons for this: firstly, large-scale horizontal mergers are not processes that are likely to be repeated at institutional level, so the benefit of the exercise would be limited at local level (unlike at system level and internationally). Secondly, there may be the concern that a frank evaluation identifying criticisms and missed opportunities would destabilise the buy-in and commitment of stakeholders. Thirdly, it is an extremely difficult exercise to complete in a comprehensive way, given that a significant part of the costs and benefits is intangible and unquantifiable. Fourthly, mergers are long-term processes and real organisational change takes years to become embedded, so evaluations can only be effectively carried out in the long-term.

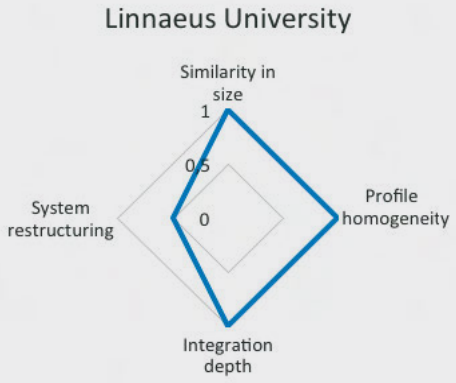
  Finally, the rationale and drivers behind the merger are key considerations in the decision on whether to undertake a full evaluation. A vertical merger aiming at consolidating the academic offer in a given area may not require an in-depth evaluation considering that the mere completion of the merger suffices to achieve the goal. On the other hand, where public authorities drive the process to improve quality, it makes sense to gauge progress in some way to assess whether the objective has indeed been met.

Example 24: Assessing gains of the Linnaeus University merger

The Linnaeus University was founded in 2010 through a merger of two older institutions, Växjö University and the University of Kalmar. There were many reasons behind the merger, the most important of which was to strengthen the academic profile. The new university became almost double the size of either of the individual institutions with approximately 2 000 staff members and 30 000 students, making it a large, instead of a medium sized, university in Sweden. This has proved itself to be important in, for example, recruiting new students. Linnaeus University has quickly gained in popularity, increasing the number of applicants by 32% in four years. This gained popularity and a larger overall student body of the merged institution has meant a greater stability and possibility to venture into new projects and strategic changes.

The gained academic strength has also made it possible to strengthen research. External funding has risen by more than 40%, and the relative impact of publications by more than 20%. New areas of excellence have been identified and have been given strategic funding. The research strength has developed through new recruitment of professors, the number of professors has increased by 17%. The larger institution has also made it possible to more effectively administer the university. As a consequence, overhead costs have fallen by 13% and, in particular, by 35% in research.

The merger has taken great efforts to accomplish. Therefore, it should be thought of as an investment for the future. Still, as some of the indicators mentioned above show, one can also get some rather quick pay-backs. One important reason for this is that in forming a new university it is possible to make more dramatic changes. Such changes are often not possible otherwise, at least not without much resistance from within. Forming a new university also means that strategic goals can be formulated far more freely, since there is no need to inherit the older institutions' strategies. A new and powerful strategic plan, together with purposeful leadership at all levels to implement the strategies, are keys to progress.



Source: Stephen Hwang, Rector of the Linnaeus University, in Leaders' Perspectives on Governance and Funding (EUA, 2015)

Public authorities should not engineer system-level restructuring with the sole view to achieving economies, but rather build a sound academic case and a political vision for the system. The resource intensiveness of the transition within institutions should be estimated and adequately compensated for. Public authorities should invest in an ex-post evaluation of the process, in particular to inform the further development of policies for the sector.

Universities should undertake a pre-merger costing process, while remaining mindful that pinning down precise costs is not possible. The merger should be supported by a strong academic and business case, considering that mergers are lengthy, resource-consuming processes which are difficult to reverse.

It is important to specify defined assessment criteria and apply these equally across the whole institution to arrive at a balanced and comparable assessment of the wider situation.

If it is shown that the real and opportunity costs can be justified by the potential academic gain, then it becomes possible to consider financial efficiencies.

A merger process may not to be the best option for the institutions concerned, once an evaluation of the costs involved (both real and opportunity costs) and the potential benefits (both academic and financial) have been carried out. When making this ultimate decision, the leadership and relevant stakeholders should consider other possible cooperation options in order to ensure that the most suitable way forward is selected.

4. Managing the process

The success of a merger, from both an academic and an economic angle, depends heavily on the quality of the planning and implementation phases of the merger process (success factors in these phases are described below in Table 10). These two parts of the process may be usefully differentiated by considering "planning" as the preparation undertaken before the decision to merge is taken, and "implementation" as the work that must occur before the merger takes effect. However, there is a great deal of overlap between these parts of the process, as the amount of work that goes into the process before the decision to merge is taken varies to a high extent between institutions. Therefore, both planning and implementation are considered together in this section, as important phases determining the potential for a merger process to deliver efficiencies. Despite the significant diversity of experiences in the field, common good practice and success factors, obstacles and pitfalls have been identified through the DEFINE data collection process and are further described here. The section focuses in particular on the design of the leadership and governance structures, the involvement of staff in developing the new institution, communication and the consultation of students.

Table 10: Success factors in planning and management

Planning and implementation steps	Success factors
Develop the academic case	Create an inspiring vision for the new institution Shape out the added value of the merger
Build the economic case	Identify expected gains Consider losses, opportunity costs and assess relevance of alternative collaboration mechanisms
Cost and resource the process	Estimate transition costs Allocate resources to transition phase
Set up a working structure to carry out merger process	Involve the different groups and constituencies of the institutions Strike the balance between involvement and disruption from normal workload Consider thematic organisation and different degrees of involvement
Design the governance model	Consider setting up advisory bodies to strengthen the link between the new leadership and the different structures/groups
Establish the leadership team	Consider the balance between representation of the previous entities and inclusion of external expertise
Shape communication strategy and channels	Identify and reach out to internal and external stakeholders Ensure effective communication flows throughout the organisational structure Ensure adequate feedback loops at all levels Promote the academic case of the merger Ensure full commitment of the leadership (of merging institutions and of newly created institution) Acknowledge change and possible losses and explain gains to the different constituencies Adopt a transparent approach
Monitor and evaluate the process	Set clear progress indicators Monitor progress at intermediary stages and assess costs Consider halting the process/alternative collaboration measures if negative outlook Carry out an ex-post evaluation of the process

4.1 Governance

Unless the process is directly initiated by public authorities, the origins of the process are found in a dialogue between the senior management of the institutions concerned. The decision to formally undertake a merger requires the consultation and ratification of various external and internal actors before implementation can commence (typically university councils and senates).

The analysis of various merger cases shows that the steering of the process is most frequently placed directly under the joint leadership of the merging institutions, often with the support of the corresponding senior management team. At the operational level, a taskforce or merger project team is generally put in place at an early point to map out how the merger will be implemented, and reports to the leadership. This team coordinates the work and feedback of a series of usually thematic working groups organised at inter-institutional level and within the institutions themselves. The establishment of shadow structures is also a frequent feature in the process (bodies that do the work of existing institutions in the form of the newly merged university).

The effective participation in such structures of the university community, and in particular of academics, was identified as a key success factor. Where the process is primarily top-down, either from the level of government and public authorities, or from senior management and rectors, extensive consultation with staff is essential. Involving students is another good practice (see Section 4.4). Merger processes spread over several years and as such may make it difficult to achieve continuity in the involvement of student representatives; nevertheless, it has proved to be a rewarding exercise which has contributed to the improvement of communication within the concerned institutions. The involvement of students also tends to strengthen the focus on generating these important "quick wins" in the process.

In some merger cases, other stakeholders are involved in the governance of the merger process; these may be representatives of public authorities, in cases of politically engineered mergers, or external experts advising on the process itself. The merger whereby Dublin City University incorporated smaller colleges involved external consultants in the implementation phase; at the University of Strasbourg, consultants intervened towards the end of the preparation phase and advised on the design of the new organisational structure.

Table 11: Examples of direct involvement of public authorities in merger process steering

Linnaeus University	The government appointed a "pre-rector" and a "pre-board" to make decisions.
Merger of St Angela College and NUI Galway	The process is steered by the Higher Education Authority and by the senior management meeting regularly to negotiate the Heads of Agreement and merger process.
Leuphana University Lüneburg	The formal structure was set by a particular law setting the frame for a so-called "model university". The draft was mainly discussed by the government and the two boards of the universities involved. The most relevant committee was the Boards´ Meeting – often with a representative of the government (state secretary) – where basic decisions were prepared and then presented to the senates.

A credible and authoritative leadership team for the post-merger institution is a primary concern when planning a merger process. There are several options to achieve this, depending on the background of the founding institutions and the narrative for the merger process. A new team can serve as a "new face" for the merged institution, showing that it is more than just a combination of the old institutions. Bringing new expertise at the senior management level may mean hiring leaders from the higher education field, or combine this with fully external recruitments from other sectors of the economy. In the latter case, it is essential to provide all necessary induction tools to ensure a full understanding of the dynamics of a higher education institution. Another option is a careful composition reflecting the balance of the different interests and previous affiliations. Indeed, the leadership team composition should help secure

the trust of all key stakeholders. Extensive thought and negotiation is required to ensure that the final settlement between the merging partners is accepted by all. Failing to achieve this at an early stage can cause problems at a later stage; disagreements over the composition of the leadership team have thrown doubt upon (and sometimes led to the postponement or failure of) merger processes under negotiation.

The timing of the transition of power also has an impact on the success of the merger. There were examples of merger processes where the new rector and leadership team were given immediate control at the beginning of the process, while in other cases the new rector only came in at the end of the process, even though they had been selected six months previously. Feedback from those concerned indicated that an earlier transition is more advantageous in order to establish the new institution as an independent and coherent organisation.

The principle of institutional equality plays a vital role in these negotiations. In horizontal mergers, the institutions concerned must feel they are equal partners at every stage of the process, although this does not necessarily mean they should be represented in equal numbers in the new management team. Likewise, in vertical mergers the smaller institution should be given a proportionate status to the larger institution in the organisational structure.

Moreover, new institutions should recognise and respect the heritage and achievements of old institutions in a way that does not affect the creation of the new university.

Indeed, addressing cultural change and overcoming old institutional culture requires a tailored approach for every merger process. This is indelibly linked to the type of merger taking place; vertical and horizontal mergers will have different characteristics, especially in relation to the creation of new brands. One of the most important decisions from this perspective is how to formulate a new organisational structure, or whether to retain existing ones. It was agreed that as long as previous organisational units remain in place (even with new names and structures) some form of allegiance, or mere attachment, for the old institutions remains.

However, there are contrasting opinions relating to how to manage this. In some cases, it was felt that for the merger to be fully effective, old organisational units could not be permitted to operate independently. While such centralisation may then be gradually relaxed, it makes clear that the former institutions cease to exist at the time when the merger takes effect.

Equally, examples of the opposite approach exist, with universities undertaking structural reorganisation incrementally, and gradually asserting the dominance of the new institution over time. This is justified by the concern that enforcing change at the start would irreversibly alienate staff and could have the directly adverse effect of strengthening allegiances to old institutions through resistance to a merger process. The "absorbed" institution may be given a special status different from that of the other organisational units; conversely, a larger structure being merged with smaller ones may be itself broken down in smaller units to create a more level playing field for all actors in the new institution.

Finally, the status of individual schools and faculties following a merger should be taken into account when planning the new institutional structure. For many academics, allegiance to these organisational units is greater than to the overall university, in which case remaining sensitive to internal organisation is crucial to gaining buy-in. Overall, it has been observed that removing the basic group structures that staff and students previously identified with can be a very destabilising process, so the need for this should be carefully assessed.

4.2 Planning and management

Process change was highlighted as a very important aspect at the implementation stage. In horizontal mergers, this should involve taking best practices from all merging institutions, rather than imposing change in a unilateral fashion. The same principle should apply for vertical mergers and the larger institution should be ready to consider good practice from smaller partners. However the dynamics of this question differ from horizontal mergers, with the need for new processes to fit with those in place at the larger institution. In all contexts, there should be a clear project management strategy in place supporting change transversally. It is also clear that process change should not be viewed as a finite process that is completed once the merger has been implemented. It should be accepted that alterations and adjustments are needed over time as operational issues become apparent.

Developing trust and fostering the commitment of staff to both the process and the resultant institution should be essential principles of the management strategy, and transparency is particularly important in order to achieve this. There was consensus among consulted university leaders and managers that an open-door approach whereby staff can follow and contribute to the process yields better results and is preferable to an approach where decisions are taken without thorough consultation. However, the level of transparency is often defined by the origins of the merger decision; where public authorities take the lead, the process is often perceived as being more top-down.

A critical element in this respect is for the leadership to strike the right balance between the wish and need to involve the largest possible constituency internally and the importance to limit the diversion of precious resources. Experience shows that although this is extremely difficult to achieve, a structured approach can enhance the efficiency of feedback loops and thus help academic staff focus on their core tasks while being properly listened to.

At Aalto University, the merger process was facilitated by "transformation teams" organised around a series of themes. Each team included different thematic working groups, which in turn referred to "commentators" and "reference groups". The intensity of the time commitment and workload in relation to the preparation of the merger was proportional to the place of the team/group in this structure, with full time commitment for the "A8 team" (consisting of theme leaders and project directors), down to occasional involvement of members of the reference groups at the end of the chain. The thematic committee structure is a common point with the merger of the University of Strasbourg (see Example 25).

Example 25: The University of Strasbourg

The University of Strasbourg was officially founded on 1 January 2009, after about three years of preparation once the decision to merge had been taken in 2006. The merger was primarily a project owned by the institutions themselves, in a context where the public authorities fostered clustering in the sector. The institutions involved took advantage of the reform of the regulatory framework initiated in 2007 by choosing to be part of the first round of universities entrusted with 'enlarged responsibilities' (notably as regards staffing autonomy and budget management).
The main driver behind the process was the willingness to improve the international attractiveness of a stronger, more visible institution with critical mass and comprehensive academic offer.

The process was steered by the leaders of the three merging institutions and managed and supported by an operational project leader and a coordination team. The structure also included a series of inter-institutional thematic committees and working groups within each institution.

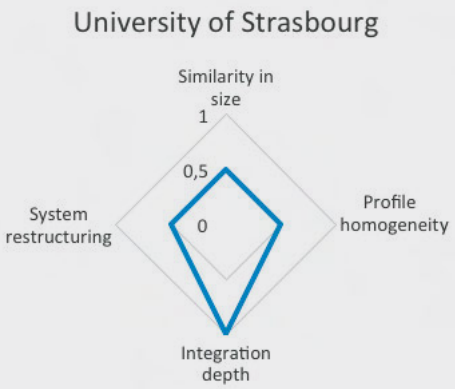
External consultants were invited to provide advice on the design and implementation of the new organisational structure. The European University Association accompanied the change process and subsequently carried out an audit of the merger.

Success factors

- Common vision of the leadership
- Favourable political and regulatory developments (autonomy reform; "operation campus")
- Geographical coherence (same campus)
- No significant overlap in the academic offer
- Common history of the three partners

Challenges

- Limited human resources and significant additional workload for involved staff
- Change management methodologies not proportional to the ambition of change
- Change of leadership teams during the preparation process
- Diversity in the governance and administration profiles of the three partners
- Heterogeneous academic traditions and institutional cultures
- Pioneering merger process in France: no 'best practices' available



Source: DEFINE Focus Group Feedback

Mergers are resource-intensive processes (Section 3.2). The merger cases which were analysed almost universally reported significant additional workload for various categories of staff, more or less directly involved in the actual management of the merger itself, particularly in the first phase of the process.

Although providing a precise evaluation of the extra workload created proved impossible in most cases, three main approaches seem to co-exist. Key staff at operational level may be officially appointed to the task of managing the merger process and relieved of normal daily work, with their roles being backfilled by other appointments as far as possible (University of Manchester, Dublin City University). Specific project leading expertise may be hired externally (University of Strasbourg). However, in most cases, the project is carried out by key university staff in addition to their regular tasks. This was felt as particularly difficult for staff who stand at the "periphery" of the merger process itself but whose workload is nevertheless affected by connected changes and who often benefit from less direct support (particularly the administration of sub-institutional units). Only in a minority of cases, which consisted in bringing a smaller institution under the umbrella of a larger one, was the extra workload limited (outside of the direct merger management), because of the degree of autonomy retained by the new sub-institutional unit.

The table below (Table 12) provides examples of the combination of challenges faced in different mergers, as reported by practitioners directly involved in those processes.

Table 12: Challenges faced in analysed merger processes

University merger 1	• Getting buy-in and the compromises that had to be made to achieve this • Running the merger alongside keeping the two universities going – exacerbated by the difficulty of effectively backfilling roles • Communication
University merger 2	• No extra resources were given to the university which meant that it had less relative research funding after merger than prior • Two different cultures need to merge into one • Difficulty in merging the two administrative systems
University merger 3	• Distance between the two institutions merging (over 150 km with little public transport linking the institutions)
University merger 4	• Constant need for integration of different academic cultures and the transition to a completely new institution; non-traditional ways had to be adopted, and were often not accepted in a traditional HEI community • Difficulty of external partners and stakeholders (e.g. departments of the ministries, funding agencies) to adapt to the new institution
University merger 5	• Difference in administrative cultures during the founding period • Two rounds of reductions of the administrative staff and technicians
University merger 6	• Managing the unrest created by the process among staff
University merger 7	• Adapting organisational cultures, harmonising the administrative structures • Fighting the fear of lay-off in the smaller institution
University merger 8	• Financial challenge associated with the cost of the merger • Cultural differences between the institutions, leading to differing values and work practices • Staff anxiety about the changing workplace; allegiance of staff to their original workplace; lack of identity with the new larger institution
University merger 9	• The scepticism of the academic staff, their hesitations about the identity matters, preserving academic culture, fairness in financing etc.
University merger 10	• Loss of productivity during period where the new institution operated on two campuses simultaneously
University merger 11	• Two different types of universities, different cultures, common profile, research funding, reputation
University merger 12	• Change in the leadership that initiated the process • Challenge in designing a new organisational and administrative structure fitting the larger institution • Insufficient use of change management methodologies • Lack of human resources to carry out the project • No possibility to learn from previous cases in the same system
University merger 13	• Creation of new intermediary level structures • Administrative staff being "reallocated" to new jobs • Disruption caused by major change in regulatory framework

Example 26: "Integration" challenges at Ghent University

In Flanders, Belgium, the process of integrating academic programmes of university colleges into universities triggered various complexities, among which long negotiations on the status of staff being transferred. At the system level, default rules for integration were established, but it was left to the stakeholders to decide in each case (however, the default rules were perceived as more advantageous for university college staff and were therefore applied in most cases). A further complexity was that in each association, different colleges were allowed to have different rules in the first place.

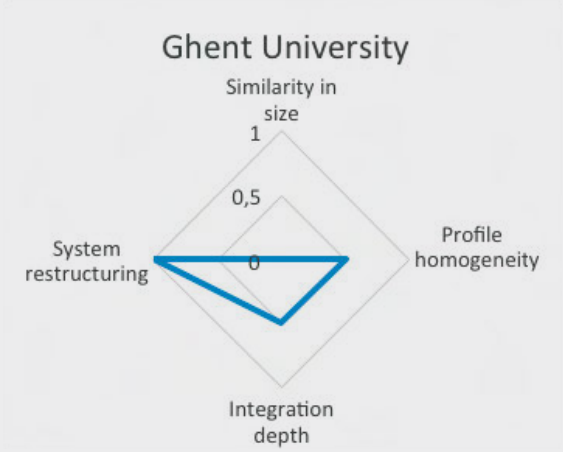
At Ghent University, two paths were designed for integrating the 650 staff coming from the university colleges:

- An "integration pool", whereby staff retained duties and rights according to the previous status (possibility not open to new recruitments)
- A "university pool", whereby the staff can switch to university status when a corresponding status exists in the university

Promotions were possible in both pools (in accordance with corresponding regulations) until it would be decided in agreement with the unions to change the system.

Another challenge has been to come to terms on the use of infrastructures, leading to bilateral agreements determining usage fees and compensations paid to the university colleges which own the facilities (academic buildings for student housing, restaurants, sport infrastructures, etc.).

The overall process was supported by an extra integration budget of 40 million Euro (for the entire system), allocated to the universities via the application of different weightings for students being transferred from university colleges to universities. However the sector estimates conclude that this support only accounted for a fraction of the real cost of integration (about 10%).



4.3 Communication

Communicating a positive image of the merger and the change that it entails is essential for securing the buy-in of staff and students. This helps to create the new institutional identity that staff and students will start to call their own. Indeed, it is a widely held view that old institutional identities cannot be removed or deconstructed; rather, a new, positive brand must be established that will sooner or later take precedence over the old universities in people's minds. A well communicated mission is an essential complement to this; an innovative and inspirational mission for the merged institution was seen as being of vital importance.

Time should be taken to reflect on who needs to be persuaded by the merits of a merger process. Institutional stakeholders vary from university to university and can cover large and diverse constituencies (even including religious groups, see Example 28). One group that should always be taken into account is the local community. There are several examples of highly effective communication campaigns to engage the local community to secure their commitment to the process. This is particularly important in regions where there is a strong local rivalry between institutions; it may be necessary to reassure the locality that their own institution is not being "swallowed up" by a neighbouring, larger institution that is perceived to be dominating the merger process. In some cases, this issue had led to problems regarding, for instance, the location of the rector's office, and other symbolic dilemmas.

It is worth underlining that if adequate levels of buy-in cannot be secured, the decision to continue with the merger should be re-evaluated. To continue without a solid base of staff support could lead to resentment and disappointment, and end up adversely affecting the universities' academic output. Indeed, there are examples of mergers that have been abandoned for this reason but to mutual eventual benefit. This underlines the importance of a contingency plan; commencing planning for a merger process should not lead to a path dependency that cannot then be reversed.

As far as gaining buy-in is concerned, pinpointing key projects, departments or ventures that will stand out as prestigious or exciting opportunities thanks to the merger, was identified as an effective way of winning over staff. The identification of "quick wins" shortly after implementation was also reiterated as a success factor. To help facilitate this at an early point in the planning process, reliable and carefully considered key performance indicators should be selected to cover a range of timeframes and fields of activity. Another clear success factor is the need for a vision of the merger to be effectively communicated to key stakeholders, both internally and externally. As part of this, the public unity of the senior management of all institutions involved is a vital principle of this strategy.

When developing the communication strategy, administrative staff should not be left behind in the process. While academic staff are invariably the main focus of communication strategies, and since they are at the core of universities' educational and research activities, administrators are often those that stand to lose out or experience the biggest upheaval, most notably through staff streamlining, relocation and process change. This should be taken into consideration when promoting the merger.

It may be considered good practice to first seek to promote the academic case for the merger within the institution, and in a second step demonstrate to staff that gains (including at individual level) will outweigh losses. This helps to take into account the importance of individuals' perceptions on the process, which in turn influence the atmosphere in which the process is carried out.

Another key aspect in this regard is developing a coherent institutional identity, which demands a high level of attention and planning. Individual mergers have their own sets of stakeholders who are important in the process, and these are not the same in every case.

Example 27: Internal communication management during the Aalto University merger

During the preparation stages in 2008-2009, the emphasis was on internal change communications (students, staff, faculty and alumni, student unions). Aalto invested also heavily in external communications and marketing (media, potential investors, corporates, other universities, general audience, potential students and staff) to help the fundraising campaign of the university.

Change communications tools and channels were carefully planned. Digital communication and the portal "innovationuniversity.fi" were set up. Once a month "morning coffees" were organised at different campuses where former rectors and the leaders from different streams informed the staff about the progress of preparation. Once the board was nominated, the Chairman of the Board sent a monthly update by email to faculty, staff and students which was also published for the alumni and in public newsletters. After her nomination, the new President began writing a public blog.

In order to ensure sufficient communication and exchange of ideas with the key internal stakeholders, the President also founded two additional bodies, the Professors Council for all tenured professors as an advisory body for the rectors, and the Aalto Leaders´ Dialogue consisting of the key function leaders including all department heads.

Source: Aalto University DEFINE self-evaluation report (unpublished)

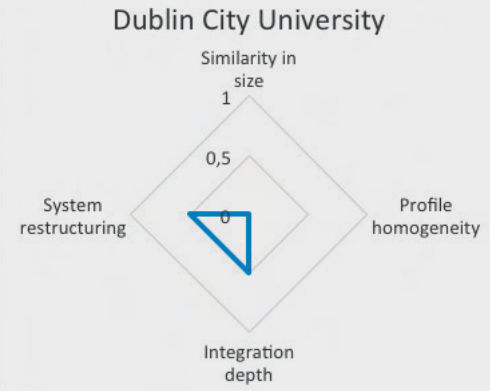
Example 28: The cultural dimension of the Dublin City University merger

Dublin City University (DCU) is a young secular university with a particular emphasis on Enterprise and Innovation. It consists of four faculties (Humanities, Business, Science & Health, and Engineering & Computing). The university is currently involved in a merger project, whereby three colleges of education will join with DCU, leading to an enhanced and expanded Faculty of Humanities and a new Faculty of Education. The new faculty will carry out research and deliver programmes in all types of teacher education from early childhood through to primary, secondary and higher education. This will lead to the emergence of a "new DCU" which will grow from 12 000 students on a single campus to 16 000 on two campuses post-incorporation. This project will be completed by September 2016.

Apart from the many practical issues faced in this merger, there are numerous challenges associated with significant cultural differences between the institutions. All three teacher training colleges are traditional colleges that are much older than the university into which they are merging. These colleges have strong religious affiliations (two Catholic, one Anglican), and provide training in faith formation to their students. DCU is a secular institution mindful of diversity, and the intention is to continue to provide education, whether associated with particular religious denominations or not, within the larger secular institution.

The decision to absorb faith-based colleges into a secular larger institution prompted specific questions about how these would be integrated. It was recognised that there is a need to ensure that the distinctive identity and values of teacher education of the incorporating colleges will be maintained on an ongoing basis after the merger. Following an extensive engagement with religious leaders and other key external and internal stakeholders, it was decided to establish two Centres for Denominational Education within the new Faculty of Education. These centres provide students with specific modules complementing a neutral core curriculum.

This approach has broad support across the institutions and the external community. However there are still ongoing challenges in managing staff allegiances, values and cultural differences. These are being addressed through various work streams and through a series of staff engagement workshops and other fora. The focus of the transition is the creation of a larger, more dynamic institution that can include a diversity of views and backgrounds.



Source: DEFINE Focus Group Feedback

4.4 Involving students

The question of student participation in the process figured prominently in the data collection process. Students may be acknowledged as a full stakeholder and be associated to the consultation, planning and implementation phases. The extent to which students are consulted does not relate significantly to the university funding model; if students in the UK tend to be given prominence in university reforms because they are now the principal source of university funding, students are also important stakeholders in systems with little or no tuition fees, as is the case in Norway.

This has been justified by the rationale that they represent universities' main academic "output". Students were consulted in specific partial merger projects in the Netherlands which were put on hold as a consequence of the negative opinion delivered by their representative body. On the contrary, students have tended to play a more limited role in the shaping of university mergers in France.

It is clear, however, that the experience has generally been positive when students have been more highly involved. It is the shared interest of the university management, academic staff, and students to raise the profile of their institutions and enhance quality, which is what a merger with a compelling academic case should seek to achieve. Bringing students close to the university leadership during the process, through regular meetings, helps reduce the uncertainty and confusion that may be generated by the process as student representatives are equipped to respond to the demands of the students of the merging institutions. One should not underestimate the cultural challenge that also exists at student level in the case of complementary mergers of institutions with different academic profiles or statuses. It is therefore good practice to involve the student representative bodies, by giving them access to the working groups through the transition phase as well as to the governance structures of the new institution. Ultimately, it is the students who will develop a sense of belonging to the new institutional identity.

To summarise, there are a wide number of important considerations to take on board when planning and implementing a merger, whether horizontal or vertical. Among these, shaping administrative and organisational structures in a way that facilitates (rather than disrupts) the academic mission is key. The process can be likened to the performance of an orchestra: in order to create harmony, it is necessary to have participation of all parties, a transparent leadership, clear communication and the commitment of the entire organisation.

Public authorities should provide a favourable regulatory framework to institutions so that they have the necessary organisational autonomy to design their governance structures in the most suitable way given the characteristics of the merger process.

The development of a balanced institutional structure is key to secure buy-in of previous entities. Similarly, the composition of the leadership team should be used towards building trust throughout the new institution. The inclusion in the new leadership team of members who did not belong to the previous entities may help to implement the institutional strategy without excessive focus on vested interests.

Investing to engage people in the process is a crucial success factor; consultation and involvement should be based on transparency and continuous communication flows to foster the building-up of trust. Attention should be given to developing efficient consultation and involvement mechanisms that minimise the diversion of resources, enabling academic staff to focus on their core missions while being listened to in relation to the merger process.

CHAPTER 3.

FUNDING FOR EXCELLENCE

1. Introduction

The present chapter focuses on public funding for excellence; it provides an analysis of existing schemes and explores related challenges and success factors. It focuses in particular on the institutional impact of such schemes on beneficiary institutions, and notably on the potential unintended effects, with a view to providing recommendations to policy makers, funders and university managers for their planning and implementation.

Data was first collected from 29 European systems through a questionnaire, followed by several rounds of consultation and interviews with EUA's collective members, the National Rectors Conferences, to verify the data. This was complemented by the institutional case study of the Friedrich-Alexander University of Erlangen-Nuremberg (Germany), in the form of a self-evaluation report and a site visit, as well as a focus group where university managers and leaders from different European countries discussed their experience of public funding for excellence and its impact on universities.

The chapter draws on this information and presents EUA's analysis of the use of public funding for excellence in the university sector across Europe.

2. Scope of the chapter

This chapter focuses on public funding mechanisms aiming to raise the performance of certain higher education institutions to an "excellent" level. It should be noted from the outset that identifying such measures, or initiatives, proves highly challenging, considering the diversity of situations and practices in the field throughout Europe. In the absence of a clear-cut definition, the study identified a series of key features to determine the scope of research.

The first definition used in this study addressed "large-scale initiatives where public funding is directed to universities on a competitive basis not related to specific projects, and focus[ed] on the development of wider institutional strategies" (for example, the excellence initiatives in Germany or France). This definition helped distinguish between the mechanisms considered and "regular" competitive funding, which typically awards funds on the basis of a proposal for a given set of activities brought together in a project format.

Responses to the first questionnaire submitted to National Rectors' Conferences revealed, however, a wider variety of understandings and as a consequence it was possible to draft a longer list of various measures that could be considered as "public funding for excellence". In a second round, these additional understandings were therefore included, adopting the definition of "public funding schemes that have as their main objective the fostering of excellence". This kept a broad spectrum approach and took into account a large variety of mechanisms. In order to enhance readability, in the rest of this chapter we refer to "excellence schemes" as a global term encompassing the various mechanisms detailed below.

In a few cases, it becomes difficult to distinguish between the measure considered and regular competitive funding rounds or between the measure and regular "performance-based" funding. This may be, for instance, because public authorities decided to retain schemes beyond their original lifecycle. In some systems the "funding for excellence" constitutes an integral part of the main funding mechanism. This is the case in the United Kingdom, where the Research Excellence Framework (REF) provides data to one of the principal public funding tools for the universities' research activities and involves nevertheless a certain degree of selectivity, which as explained above is considered a feature of the schemes examined in this chapter (although nearly all concerned higher education institutions receive a research grant through this mechanism, it is awarded on the basis of their performance in specific subject fields). Another example is Hungary, where there is a scheme in place that permits the funding of research activities at a limited number of universities that are given the status of "research university of national excellence". However, research is only funded outside of this mechanism via the Scientific Research Councils on a competitive project basis. One can therefore consider this scheme as performance-based funding, accessible to universities that fulfil criteria linked to scientific publications and staff.

The period considered in this chapter extends from mid-2000 to 2014. The limited nature of this timeframe means that the possible consequences and impact of such schemes have not necessarily been identified nor thoroughly analysed by stakeholders.

The schemes featured in the present analysis are the following:

Table 13: Featured excellence schemes

System	Scheme
Austria	Creation of Institute of Science and Technology
France	Excellence Initiatives (IDEX)
Finland	Centres of Excellence in Research Creation of Aalto University
Germany	Excellence Initiative
Hungary	"Universities of National Excellence"
Norway	"Centres of Excellence"
Poland	"Leading National Research Centres" (KNOWs)
Russia	"5-100" programme
Spain	"Campus of International Excellence" Programme (CEI)
United Kingdom	"Research Excellence Framework" (REF, previously the Research Assessment Exercise)

All of the above schemes present different characteristics, timeframes, and scales, which are further detailed in annex.

3. Excellence schemes in higher education systems

3.1 Characteristics

This study thus takes into consideration a variety of mechanisms which are of a selective nature – the funds distributed are not meant to benefit all universities in the sector, unlike core funding. However, these mechanisms differ from regular competitive funding because they are essentially characterised as "exceptional", meaning that they are introduced as separate measures outside of the existing funding mechanisms. They are also often intended to be limited in time, with the possibility to renew the initiative in case of perceived success. This constitutes another difference with regular competitive funding mechanisms, which in many cases operate on a recurrent basis.

They also differ from regular competitive funding in their scope and intended recipients. Competitive funding often tends to address individual researchers, research teams or researchers' networks, whereas excellence schemes may be aimed at institutional level, more often than not involving strategic choices and commitment by the institutional leadership.

A common point with regular competitive funding is the concept of selection and the associated use of peer review via jury panels, typically of an international nature. High-level academics have thus sat on jury panels for different schemes. The concept of selection at the level of the institution (rather than at the level of research teams), represents an important move away from the prevailing equality paradigm in a number of higher education systems in Europe.

The British "Research Excellence Framework", the results of which inform the funding formula determining the universities' core research grant in the United Kingdom, is also considered in the present analysis, as it shares some of the characteristics (notably peer-review) and broader narrative referred to above. However, it should be considered as a particular case since the "excellence" mechanism is a component of the core funding system.

Excellence schemes most commonly address excellence in research; nevertheless, some systems have set up schemes focusing on teaching excellence. This is for instance the case of the French "IDEFI" scheme, which funds innovative teaching, or the "Quality Pact for Teaching" in Germany, which aims at improving the conditions of study and teaching quality.

The creation of a new institution may also be regarded, in specific cases, as a form of public funding for excellence, in particular given the concentration of resources and the narrative surrounding these processes. The merger of three higher education institutions to create Aalto University in Finland is an example. While Aalto University has ambitious aims in the field of research, excellent teaching was an explicit objective of the merger, with the perspective of generating new skills for the Finnish economy. The creation of a new institution out of a merger may also be an outcome of the excellence scheme, although it may not have been part of the direct objectives of the programme, such as in the case of the Karlsruhe Institute of Technology, which emerged out of the first round of the German "Exzellenzinitiative" as a strategic merger between the University and the Research Centre of Karlsruhe. Another scenario is the creation of a new "institution of excellence" outside of the existing university system, as happened in Austria with the foundation of the Institute of Science and Technology, which received about one billion Euro from the federal government over a period of ten years.

Table 14: Funding for excellence modalities

Funding for excellence: modalities		AT	DE	DK	ES	FI	FR	HU	NL	NO	PL	RU	UK-EN
Creation of new institution		•				•							
Dedicated schemes	university level		•		•		•					•	
	sub-institutional level		•			•	•			•	•		
Embedded in regular competitive funding				•					•				
Embedded in core funding								•					•

Finally, the schemes focused on in this study have mostly been set up since the second half of the 2000s; Germany's Exzellenzinitiative was launched in 2006; the Polish and French initiatives started in 2011, while the Spanish programme took place between 2009 and 2014. This is an important fact to take into

consideration when seeking to assess the impact of the scheme on the higher education system and the extent to which it has achieved its objectives.

The following sections explore the multiple aspects of excellence schemes in their wider academic and funding environment and the associated challenges and opportunities for universities.

3.2 Rationale and objectives

Public authorities may choose to implement such measures for a variety of reasons, including achieving enhanced international visibility of the institutions concerned, improving research and/or teaching quality, and matching better supply and demand in the higher education market. However, in a context of constrained resources, excellence schemes are also meant to increase funding efficiency, whether as a main objective or not. They often have as an ambition the removal of inefficiencies and the concentration of funding by creating hierarchies between institutions.

The most commonly cited aim of "excellence schemes" refers to enhancing the competitiveness of a given system's research landscape in a perspective of international competition. Restructuring the higher education and research landscape is another common objective, by introducing further differentiation in the system and concentrating resources. Related to that is the strong focus on reforming the internal governance of the institutions. In some cases, the goals pursued are to be measured very concretely via, for instance, an improved position of key universities in international rankings. This is the case for instance in the Russian "5-100" project, whose title relates directly to the objective of placing at least five Russian universities in the "world's top 100 universities" by 2020. Other considerations range from better integration of universities in their economic environment (an objective of the Spanish programme), fostering cooperation among research actors, and further internationalisation of the higher education institutions.

Table 15: Objectives of excellence schemes

Enhancing the competitiveness of the system's research landscape in the context of international competition
Restructuring the higher education/research landscape
Enhancing the international visibility of the research system
Improving the system and related quality objectives
Internationalisation
Improving HEIs' positions in international rankings

3.3 Excellence schemes in their financial environment

From the outset, it is important to state that excellence schemes should not be considered in isolation from the general funding framework. Excellence schemes are usually special initiatives that generally exist as an addition to an already complex array of mechanisms that channel funding to universities. EUA's previous work on income diversification[29] revealed that universities may have to manage a wide array of funding mechanisms that often come with different types of participation rules, cost coverage and financial reporting requirements.

[29] See EUA's EUDIS study: http://eua.be/activities-services/projects/past-projects/governance-autonomy-and-funding/eudis.aspx

The overall balance and nature of funding granted to universities thus matters when assessing the impact of excellence schemes on both successful and unsuccessful institutions. In a context where regular public funding to universities is cut, excellence schemes take on a different meaning. In these circumstances, although an excellence scheme may originally have been intended to serve as an instrument to reward and lift up capacities of the best performing institutions, it may become a tool to "fix holes" and enable universities to sustain their daily business. As an example, Spanish universities have seen their block grants diminish by about 15% over the period 2008-2014 (taking into account inflation),[30] with a loss of over 1.1 billion Euro,[31] while the "Campus of International Excellence" programme has provided around 700 million Euro to the sector between 2009-2011.

The introduction of excellence schemes, not unlike the increasing share of competitive funding in the overall funding framework, may also reflect a shift in the nature of funding provided to universities, with a trend towards more focused grants geared towards the completion of specific objectives.

The interaction with other sources of funding is also relevant when considering the creation of excellence schemes; part of the narrative surrounding these initiatives is that these are additional, albeit temporary, funds that are meant to give a "boost" to the institutions, and provide leverage in helping to generate further funds from private partners in particular. This is a clear objective of the Spanish and German programmes. For instance, the amount of externally generated funding is sometimes used as a proxy to assess the success of an excellence scheme. Therefore these schemes provide the best results in regions with well-developed economies in which universities maintain strong relationships with other actors, notably in the business and industry sectors. It is also important to note that, because of this notion of "additionality", excellence schemes tend to offer limited indirect cost coverage and may only fund parts of the activities considered, which may in turn cause major issues for the beneficiary universities and lead to significant internal reallocation of resources to cover indirect costs linked to the new activities.

Very much like for regular competitive funding, excellence schemes also generate costs of their own, which also need to be covered. Costs at the level of the participating institutions include the use of significant resources in the preparation of the applications. This may involve organising a pre-application assessment of the proposal by external peers. In the case of large schemes focusing on overall institutional strategies, these proposals involve a large number of key university stakeholders, with a large role for the institutional leadership and extensive consultation rounds, which also consume considerable staff time and financial resources. The ensuing management of the project, notably as regards the reporting requirements, also generates costs. Feedback on institutional experiences with such schemes shows that there is little awareness of the full costs of participation, and that these are often underestimated and unaccounted for.

The management of the mechanism itself is also cost-intensive, in particular in large schemes such as in Germany. One significant source of expense is the number of international panels that need to be set up for a variety of disciplines (as well as interdisciplinary panels) and the number of selection rounds involved. The resource intensiveness of the German Excellence Initiative is viewed as a major reason by certain stakeholders for putting an end to an experience which is otherwise perceived as successful.

Excellence schemes should be implemented in a stable economic and regulatory environment and a solid funding framework to ensure that this special instrument does not become a replacement for regular public funds, thereby creating inefficiencies in the wider delivery of funding to the university sector.

[30] See EUA's Public Funding Observatory: http://www.eua.be/publicfundingobservatory
[31] Comparison between public funding distributed to public universities in 2014 and 2008 in Euros (inflation not taken into acount).

3.4 The administration of excellence schemes

Large-scale funding mechanisms such as excellence schemes require significant administrative capacities, both at the level of public authorities and/or funding councils, as well as at the level of the participating institutions. From the design of the scheme, to its implementation and evaluation, a number of pitfalls need to be addressed.

It is clear that, to work successfully towards the intended goals, the rules of the scheme must be known in advance and should remain consistent throughout the process. This does not mean that there is no room for adaptation following a proper review exercise. However, without a doubt the objectives of the scheme should not be jeopardised by uncertainty and volatility in the process.

Stakeholders have, for instance, sometimes reported that, at the last stage of selection, considerations other than those communicated may play a role in the final decisions made. The selection procedure should be fully transparent, with detailed criteria known by all parties. The members of the jury panels should receive clear instructions as to the hierarchy of criteria used to evaluate the proposals. This is all the more important as excellence schemes explicitly seek to reward scientific excellence, and as such jury panels should hold an important, if not exclusive, role in the final decision. The fact that many panels have an interdisciplinary composition further adds to the difficulty of the exercise.

It is therefore essential that the process includes adequate checks and balances, as well as a degree of flexibility for further improvements. A specific concern in that regard is the status of "prolonged" projects – successful proposals that are given additional funding for further activities after the end of the initial funding period – when this possibility exists. The Norwegian "Centres of excellent research" programme includes a separate strand for those, which allows for modifications in the rules while maintaining continuity and consistency in the rules for beneficiary institutions who obtain prolonged funding.

Flexibility is also crucial to ensure fair treatment of the different academic disciplines, a question that is further explored in the next section. This can be done by taking into account the differing work cultures and practices when assessing the proposal submitted, as well as using differentiated proxies to measure productivity in the various academic fields.

Crucially, most of the issues covered above can be identified once an evaluation of the scheme has been carried out. However, the study reveals that, in the field of excellence schemes, evaluation is an exception rather than the rule. This may partly be due to the fact that most of the mechanisms considered in this study have been implemented fairly recently, but it is nonetheless a worrying finding which needs to be addressed.

Public authorities should establish clear objectives and corresponding criteria for selection, while seeking to maintain a high degree of transparency in all processes. Administrative procedures need to be kept as simple as possible, so that reporting and other requirements do not take precedence over the stated goals of the scheme.

The funding body should collect feedback from the sector and review selection mechanisms accordingly; constant monitoring should help evaluate the attainment of the scheme's goals and assess the costs incurred.

3.5 Excellence schemes and the academic disciplines

Do excellence schemes treat all disciplines equally? It may be argued that commonly used selection mechanisms favour some academic fields over others that are less reliant on quantitative track records or team work. The type of expenditure being funded through the excellence scheme may also fit STEM

proposals better if the focus is on large equipment rather than on personnel costs, which, by comparison, represent the largest expenditure in humanities and social sciences.

The excellence schemes must be designed in full consideration of these aspects, and avoid creating unnecessary barriers. Peer-review panels are expected to naturally correct some of the inherent bias of the mechanism. Different logics may however create tensions; for instance, the wish to submit proposals to international evaluation panels may lead to the requirement to draft proposals in English, which may not be relevant for specific fields. Research topics particularly rooted in a regional or national context may also find it difficult to resonate in international evaluation mechanisms.

The increasingly interdisciplinary nature of research also represents a particular challenge in the framework of excellence schemes, notably in relation to the setting up of adequate international review panels for certain fields. University leaders warned against giving undue preference to "niche" interdisciplinary proposals, or on the contrary, underrating proposals because of a lack of adequate reviewing capacity for highly specific fields. Thus whether excellence schemes promote or hinder interdisciplinarity remains to be seen. However, it should be taken into consideration in the design of such schemes.

Different adaptation strategies may be observed, either at system level or within the academic community. The selection mechanisms of excellence schemes may be adapted, in particular as regards the measurements of productivity in humanities disciplines to better reflect the characteristics of scientific production in these fields. For its part, the academic community may develop working modalities that improve their capacity to submit proposals, for example, by adopting a culture of working in teams.

Checks and balances should be set up in the selection mechanisms to ensure a fair review of the different disciplines and of the interdisciplinary applications. Evaluation panels should be briefed thoroughly and subsequently monitored; unambiguous instructions should be given as to how to evaluate the submitted proposals.

4. The impact of excellence schemes on universities

4.1 Excellence schemes as drivers for strategic institutional profiling

Heightened international competition for talent and funds requires universities to make themselves more visible on the international stage, and distinguish themselves from competitors by developing a strategic profile. Excellence schemes are an instrument available to public authorities to promote this, with strategic profiling becoming a dimension of the application and granting process. Universities are therefore encouraged to identify, strengthen and capitalise on their strengths and assets. Universities may choose to invest internally in a strategic way to create a leveraging effect. They may provide seed funding to high-potential initiatives in order to help them reach a level where they can be turned into excellence scheme proposals, creating de facto an "internal excellence scheme" focused on the young generation.

Example 29: The Emerging Fields Initiative of the Friedrich-Alexander University of Erlangen-Nuremberg

In 2010, the university leadership decided to take up on a self-funding basis the "Emerging Fields Initiative" (EFI), a project initially submitted but not selected in the German "Exzellenzinitiative" competition.

The initiative aims to promote outstanding, preferably interdisciplinary, research projects at an early stage and in a flexible and non-bureaucratic way, and prepare them for external funding.
This internal funding scheme for excellent research is expected to enhance the university's reputation as a leading university, develop its unique selling points, improve its attractiveness as an employer for excellent researchers both from Germany and from abroad, and expand its strategic alliances with key partners.

Funding for this project is derived from resources released from vacancies and indirect costs of other projects. The university applies a policy whereby a percentage of indirect costs of each externally funded project is directed to central university management.

The extent to which this mechanism mirrors that of the German "Exzellenzinitiative" is interesting. The EFI is focused on promoting high-risk research in emerging fields and seeks to combine excellence and interdisciplinarity. Thus the EFI is seen as a promotion of novel but promising interdisciplinary research projects and partly as a compensation mechanism for the imbalances within the institution resulting from the German "Exzellenzinitiative". However, with the excellence criterion explicitly prevailing, the intiative reinforces the new overall institutional dynamic. Due to their international reputation, the engineering and natural sciences faculties indeed benefit from a virtuous cycle of financial reinforcement within a large multidisciplinary institution.

Source: Friedrich-Alexander University of Erlangen-Nuremberg self-evaluation report and site visit report (unpublished).

Such initiatives may thus be seen as a stepping stone towards success in the large-scale excellence scheme. However, they may also be envisaged as a corrective mechanism to perceived shortcomings of the excellence scheme, given that they tend to privilege established research teams over promising ones, disciplinary over interdisciplinary work, and certain types of academic fields over others. The institution may also seek to adapt its internal structure to improve its capacity to meet the excellence scheme requirements in terms of governance and flexibility, as well as enhance its ability to profile itself strategically (see next section).

Communication within the university and towards external partners is also paramount in this process; the former in order to foster acceptance of the evolutions triggered by the participation in the excellence scheme, and the latter to generate or further enhance partnerships and collaborations that will in turn strengthen the university's vision and project.

In Germany, the "Exzellenzinitiative" puts pressure on universities to identify a limited number of overarching priority research areas and thus paves the way towards a more specialised, differentiated higher education and research landscape in Germany. At Friedrich-Alexander University of Erlangen-Nuremberg (FAU), this has translated into the creation of a matrix structure, identifying eight main research areas covering different academic fields, broken down into focus areas in each faculty. A process has been set up to keep this structure up to date, on the basis of various indicators used as proxies for the importance of a research area to the university (number of research-active staff in the area, third-party funding, scientific impact and international reputation).

This drive towards "profiling", or to some extent towards specialisation, inevitably creates tensions within universities which, as comprehensive institutions, have a tradition of maintaining wide academic portfolios. In a context where institutions have often struggled to keep an acceptable balance between disciplines and academic fields, the pressure to focus on a limited number of flagship or specialist disciplines requires a concerted effort and innovative decision-making in the university. Some institutions have for instance embarked on strategic review exercises, defining a selection of thematic foci to which most disciplines represented in the university can contribute towards.

As a consequence of this trend, also enhanced by the various "clusters of excellence" components that can be found in the different excellence schemes, a need emerges to map the areas of excellence or focus of universities throughout Europe, as has been done at national level, notably in Germany.

In the longer run, the trend reinforced by excellence schemes may pose difficult questions as to the degree of diversity of the academic offer in a given system, and in particular as to the most relevant geographical level at which to measure such diversity (from regional to national, European, international level). While this trend primarily refers to profiling and specialisation of research activities, this is also a relevant question for research-based education, a core value of the Bologna process.

A final consideration under this topic relates to the necessary renewal and evolution of institutional strategies, as the environment changes and research progresses. It is therefore recommended that excellence schemes, when promoting institutional profiling, leave sufficient leeway for universities to adapt to new challenges.

4.2 Excellence schemes as drivers for institutional restructuring

The extent to which excellence schemes foster internal restructuring within the universities depends on their scope and financial means. It is certain that this is a factor in France and Germany. However, smaller-scale initiatives that, for instance, promote clustering among laboratories also raise governance and restructuring questions.

Achieving institutional profiling requires a significant degree of restructuring of the institution's governance, introducing greater flexibility to speed up decision-making on strategic choices and fostering their implementation.

Generally, certain trends or possible outcomes can be envisaged. One relates to the focus put on thematic "clusters" that tend not to match with the way academic structures are typically organised in comprehensive universities, and therefore encourage more transversal approaches. This may also contribute to a second observation, which is that restructuring leads to flatter structures, sometimes eliminating intermediary levels of management such as faculties, and also favours reduced numbers of sub-institutional entities (larger schools/faculties/departments). This was the chosen approach for Aalto University's merger process, as well as that of the Friedrich-Alexander University of Erlangen-Nuremberg when preparing for the German Excellence Initiative, a model since then emulated by other German universities.

Example 30: Development of new structures in Aalto University and Friedrich-Alexander University of Erlangen-Nuremberg

The target of the Aalto merger in respect to governance was to create new opportunities that were not possible in the context of the previously extensive dependence on government decision-making processes and administrative systems. The merger, combined with the benefits of the wider university reform in Finland, aimed to bring about greater autonomy in internal decision-making processes and allow for new organisational structures to be created, which would be better adapted to the university's activities and missions. In addition, merging three universities with consolidated and streamlined structure was intended to result in leaner management and cost savings.

As a result, Aalto University is now structured in six schools which share service functions. The schools are led by Deans and consist of academic departments led by Department Heads. The schools are responsible for teaching and research within their disciplines and are academically independent within the University strategy, guidelines, annual plan and budget. The University shared service functions are organised in matrix, where the mutual service processes are defined centrally and the actual services are provided locally within the academic units.

Source: Aalto University's self-evaluation report and site visit report (unpublished).

At the University of Erlangen-Nuremberg, the central university leadership and management exploited synergies between an internal reform plan aiming at reorganising the university's structures and the bidding process to obtain "elite university" status through the German "Exzellenzinitiative", which itself strongly promoted governance reform. The restructuring included reducing the number of faculties, from eleven to five, introducing new department and management structures, and reducing the size of the university senate. An extended university governing board (executive board and deans) was created in addition to the supervisory board and the executive board. The process also entailed a reorganisation of the administration. This organisational restructuring aimed to facilitate decision-making and profiling of the institution. The university leadership reports that this radical reform significantly improved the decision-making, communication and information structures, interdisciplinary collaboration, and teaching. In this regard, the "Exzellenzinitiative" eased the implementation of this large-scale restructuring.

Source: Friedrich-Alexander University of Erlangen-Nuremberg's self-evaluation report and site visit report (unpublished).

Excellence schemes may require institutions to regroup and articulate a common strategic vision at the level of the region. In these cases, it becomes necessary to create new governance structures "above" the participating universities where institutional leaders can take decisions; it is also necessary to design working bodies that can monitor the implementation of these decisions. In certain cases, the set up of governance bodies needs to reflect the collaborative nature of the scheme and therefore the involvement of other partners, such as large companies and SMEs, other public bodies, research performing organisations and other types of higher education institutions.

Some excellence schemes also promote and fund the setting up of new structures within universities, for instance the graduate schools supported under the first line of funding of the German Excellence Initiative. It can be a challenge for universities to incorporate these structures into the existing governance architecture and ecosystem of the institution. Public authorities tend to consider it good practice to place

these "jewels" of the university directly under central management, with short reporting lines fostering the continued commitment of the university leadership.

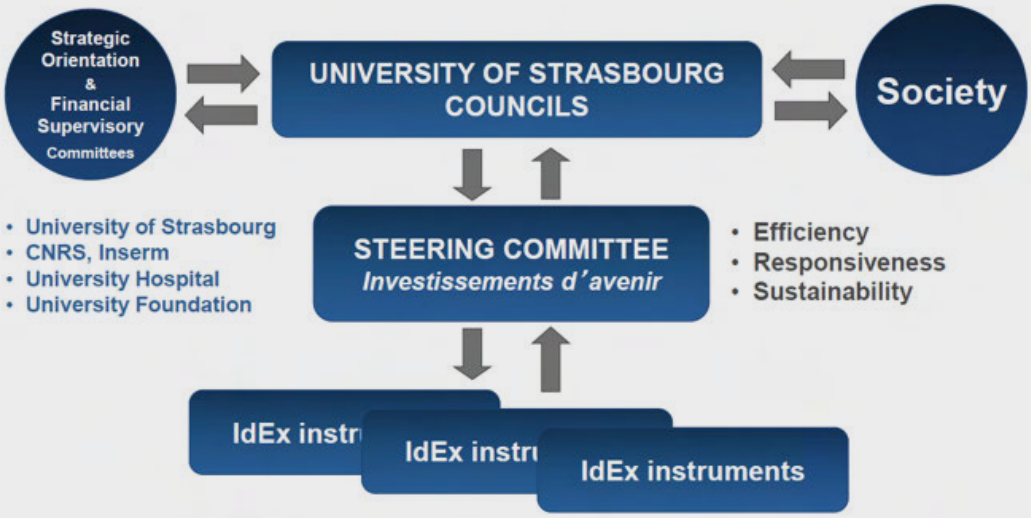
All of the above re-engineering of university governance structures may meet strong resistance within the institution and it is therefore crucial that the leadership gives due attention to communication with the various constituencies of the university as well as seeking to foster their involvement in the process. It appears necessary that sufficient room for manoeuvre is given to institutions to propose governance models that fit with their profile and characteristics. Models that are "imposed" as part and parcel of the funding scheme may lead to situations where the new structures are not seen as fully part of the university, diminishing the positive spin-off effects of the experience for other parts of the institution.

Example 31: Governance structures in the Spanish CEI programme and example of the University of Strasbourg with the French Excellence Initiative

Campus Carlos III is an aggregate of different institutions led by the University Carlos III of Madrid (UC3M), in order to develop a sustainable interurban campus located in the Madrid Region. The aim of the clustering is international excellence in research, knowledge transfer and teaching in the fields of social sciences, engineering and humanities. The CEI "Campus Carlos III" project (2010-2014) has its own governance structures distinct from those of the university to ensure coordination of all activities related to the Campus and in order to guarantee that they are carried out efficiently. It comprises a board of 11 members, chaired by the university president and including representatives of the main groups (local and regional authorities, private sector, research centres). Other bodies (executive and monitoring) are composed of senior university leadership team members.

Source: Campus Carlos III final report
http://portal.uc3m.es/portal/page/portal/inicio/universidad/institucional/campus_excelencia/final_report/CEI09-0029%20Final%20Report.pdf

In France, the University of Strasbourg successfully applied for an Excellence Initative ("IdEx") grant in partnership with the National Centre for Scientific Research and the National Institute for Health and Medical Research. The governance structure set up reflects how embedded the project is within the university governance and institutional strategy.



Source: Presentation by Alain Beretz, President of the University of Strasbourg, at the second EUA Funding Forum, 9-10 October 2014, Bergamo, Italy.

4.3 The role of the university leadership

It is an observation common to the larger excellence schemes that the university's central leadership is a key actor in all processes, from bringing together the various communities of the institution to making strategic decisions linked to profiling. This role is more pivotal than in regular competitive funding, where the central university management tends to be in a semi-external stakeholder position, aside from its role in defining the strategic areas which should be focused upon at the level of the institution.

The university leadership takes decisions related to the strategic reallocation of resources, a particularly acute question since it results in privileging particular areas or groups within the university, often at the expense of others. It is the role of the university leadership to ensure the long-term sustainability of the activities funded under the excellence scheme, which by definition offers temporary support and therefore requires a carefully planned exit strategy.

The university leadership is also the main communicator within and outside the university community. Within the institution, the leadership must ensure that all communities are kept informed and involved, and therefore increasingly resorts to direct communication channels, in contrast with communication via the sub-units. The leadership must work towards the acceptance of sometimes difficult changes associated with restructuring and reallocation of resources. It must foster the development of an institution-wide strategy while preserving the institutional balance.

The role of the university leadership as regards excellence schemes is multifaceted. It is the leadership team's task to assess the opportunity for the institution to take part in such schemes and evaluate related costs and benefits. Their role is also to anticipate the possible effects on the university's internal balance and to take strategic action in response to this. Finally, the leadership is responsible for guaranteeing transparent communication (both internally and externally) at all stages of the process.

4.4 Added value and positive impact

Universities successful in applying for excellence scheme funding find themselves in an improved position in many ways. The financial support enables additional activities to be carried out, as well as the recruitment of high quality staff, contributing to raising the quality of research produced by the institution. Provided that the scheme structure rewards it, the institution may also benefit from more interdisciplinary research. This in turn may also have positive spill-over effects in education and training activities. However, in this regard it is important to seek to preserve an adequate balance between research and education so that the focus on the former does not come at the expense of the latter.

Universities also expect, and work towards, achieving internal synergies so that successful teams or structures "radiate excellence" towards the rest of the institution, helping to deepen a culture of excellence and spread group work across the various areas of the university.

French, German and Spanish universities notably report that participating in the excellence schemes fostered a cultural change within institutions, gradually accepting to profile themselves and use this as a strategic asset, in particular in their relations with external partners.

The "quality label" granted to the successful universities also helped raise their visibility and attractiveness, not only towards partners and academic staff but also towards students, especially at the doctoral level. Industrial doctorates may also indirectly benefit from the excellence schemes and the boost they give to university-industry collaboration at the highest level. In general, excellence schemes are seen as having

a positive impact on the development of doctoral education, not least because some schemes fund the creation of graduate or research schools, such as in Germany.

Finally, excellence schemes have a positive impact on recruitment practices of participating universities that need to address this dimension more proactively and build up capacity in terms of human resource management. A related aspect is the promotion of gender equality in cases where this features among the selection criteria.

At system level, it may be argued that excellence schemes have a positive impact on the overall higher education and research landscape, notably in terms of international visibility and attractiveness towards foreign academic staff and doctoral candidates.

4.5 The sustainability challenge

Crucially, excellence schemes are viewed as time-limited initiatives to drive change, rather than a permanent funding mechanism. While in some cases it is possible to apply for a second grant, the underlying concept is one of temporary support.

Consequently, the question of sustainability needs to be addressed. One aspect of this challenge relates to the duration of the financial support received by the institution. Grants under excellence schemes often have a lifetime of five to seven years. Time is indeed necessary to consolidate achieved outcomes, in particular in relation to collaborations developed with external partners.

Example 32: Financial sustainability mechanisms in the French "Excellence Initiative" programme

In the second wave of the French "Initiative d'Excellence", the selected projects receive during a first period of four years the interests yielded by a special fund managed by the National Agency for Research. During this period, the beneficiary must use these funds towards the achievement of a series of objectives agreed to in the convention signed with the National Agency for Research as well as with the State. At the end of this four-year period, an evaluation is undertaken to assess whether these goals have been completed. In case of a positive evaluation, the beneficiary is transferred the capital grant permanently, and can continue using the yielded interests. In case of a negative evaluation, the probation period may be extended or the funding may be stopped completely.

The interests yielded by the capital grant are set by an order published in the Official Journal.

The objectives set in the convention include several aspects, notably governance reforms, partnerships with the private sector, focusing of financial resources, leveraging external funding.

Source: IDEX-I-Site 2014 Call for proposal – "Second Programme d'Investissements d'Avenir"
http://www.agence-nationale-recherche.fr/fileadmin/aap/2014/ia-idex-isite-2014.pdf

Exit strategies are another dimension of the sustainability challenge. Funding received by institutions in the framework of an excellence scheme supports additional, high-profile activities that in turn create high expectations and trigger new equipment and personnel costs. By the time the funds run out, the institution must have fully implemented a leverage strategy to generate additional funds from private partners in order to maintain – if not further raise – the new heightened level of activity. Candidate institutions often have to detail their sustainability plan at the selection stage.

Recruiting and retaining the personnel associated with the funded activities presents a specific challenge for universities. In some European countries, universities have a limited ability to recruit to short-term positions and must therefore create the financial leeway to open permanent positions. Universities participating in large-scale excellence schemes may thus have to think strategically about the internal allocation of resources over the long term. An example of this is the creation of a "pool" of internal positions, where all faculties or sub-institutional entities contribute their vacant positions; these positions are then reallocated to those areas of the university perceived as having strategic importance, such as areas temporarily funded through the excellence scheme. The same logic prevails for making resources available to cover the non-externally funded part of the activities, such as indirect costs.

Such funding mechanisms may therefore have extensive consequences on the internal resource management of the universities.

As a consequence, and at the level of the excellence scheme itself, there is a natural tension between two logics. On one side there is demand from the university sector to be able to reapply in order to prolong the duration of funding of successful activities. On the other side, the cessation of grants after a specified period of time incentivises universities to design adequate exit strategies and take ownership of the sustainability challenge. Limiting the possibility to reapply also helps maintain room for manoeuvre to accommodate newcomers in the excellence scheme.

Public authorities and the university sector need to agree on an exit strategy for the excellence scheme itself. The discussion is already ongoing in Germany after two rounds of the Excellence Initiative. The costs associated with the administration of the scheme lead a number of stakeholders to argue in favour of ending the scheme and transferring the funds to the overall university budget. All stakeholders need to consider how successfully started initiatives may be maintained over the longer term with other types of funders supporting the activities undertaken. This question is particularly acute in countries where the financial situation has significantly deteriorated over the lifetime of the excellence scheme, as is the case in Spain (see 3.3 Excellence schemes in their financial environment).

The funding body should establish an exit strategy to ensure the sustainability of the outcomes achieved in the system when the scheme is brought to an end, for instance by integrating funding into the regular funding mechanisms. At institutional level, the leadership should also consider and establish such an exit strategy allowing the university to maintain the new level of activities after the excellence scheme funding comes to an end.

Table 16: Excellence funding mechanisms considered in the report

Country	Finland	France	Germany	Hungary
Programme	Centres of Excellence	Excellence Initiatives	Excellence Initiative	Universities of National Excellence
Total funding	€49 million (first 3-year term of 2014-2019 programme)	€7.7 billion (mostly in capital grants)	First call: €1.9bn, second call: €2.7bn	ca. €20 million ("top three" universities share ca. €15 million and further three selected universities share ca. €5 million)
Timescale	6-year programmes since 1995, with funding received in two payments (0 + 3 years)	First wave: 2010 (3 projects) Second wave: 2011 (5 projects) Third wave: 2014	2006-2011 2012-2017	2013-2016: 6 universities
Objective	To regenerate and revitalise Finnish research and raise international profile	Foster excellence and raise international profile of French universities Goal: 5 to 10 excellent multidisciplinary "poles" able to compete with the best universities in the world	General improvement in the quality and international competitiveness of German universities and research	Enhance the international attractiveness of a group of top universities in Hungary and enhance research excellence
Modality	Open call for proposals, chosen by Academy of Finland in line with strategic priorities	International jury - IDEX: institutional strategies - Also different streams of funding including more focused actions on laboratories (LABEX), research equipment (EQUIPEX) and teaching excellence (IDEFI)	International jury Call for proposals to three separate streams of funding: - Graduate schools - Clusters of excellence - Institutional strategies	Selection by Ministry for Education in consultation with Academy of Sciences and Accreditation Committee. Criteria: multidisciplinary research and training capacities, potential for advancement in the international rankings and demonstration of excellence in international student mobility.
Main source	Academy of Finland website	http://www.enseignementsup-recherche.gouv.fr/cid51351/initiatives-d-excellence.html	http://www.excellence-initiative.com/excellence-initiative	Hungarian Rectors' Conference

Country	Norway	Poland	Spain	Russia
Programme	Centres of Excellence	Leading National Research Centres	Campus of International Excellence	Project "5-100"
Total funding	ca. €2-2.5m per annum per centre	ca. €12 million per centre over 5 years (PLN 50 million)	€687m in total over five years (15% in grants, 85% in low interest loans)	estimated ca. €750 million for 2013-2016 (44 billion Rubles)
Timescale	Scheme set up in 2001 2002 (13 centres) 2007 (8 centres) Ten year contracts if successful mid-term review	2012-2017(6 centres) 2014-2019 (4 centres)	2009-2014	Selection in 2013, annual evaluation during 2014-2018
Objective	Establish time-limited centres of excellence in strategically important fields of research characterised by focused, long-term research efforts of a high international calibre	Promote research excellence in research and teaching and improve Polish HEI rankings	Creating "strategic aggregations" of HEIs to enable these institutions to develop an international reputation for excellence	Maximise the competitive position of a group of leading Russian universities in the global research and education market
Modality	Open competition between universities Decision by funding council	Research units submit proposals (typically in consortia) Successful centres selected by Ministry-nominated experts	International jury Open competition: 51 applications, 18 pre-selected, 5 successful	- Open competition: 54 applications, 15 selected universities - Evaluation by Russian and international experts - Criteria: current ranking position, bibliometrics, internationalisation indicators, external funding - Set up of governing board overseeing rector's activity for selected universities
Main source	Research Council of Norway website	PAP – Science & Scholarship in Poland	Ministry of Education, Culture and Sports	5-100 Project website http://5top100.ru/

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ABBREVIATIONS

Higher education systems

AT	Austria
BE-FL	Flanders in Belgium
BE-FR	French speaking Community in Belgium
CH	Switzerland
CZ	Czech Republic
DE-BB	Brandenburg in Germany
DE-HE	Hesse in Germany
DE-NRW	North Rhine-Westphalia in Germany
DK	Denmark
EE	Estonia
ES-CA	Catalonia in Spain
FI	Finland
FR	France
HU	Hungary
IE	Ireland
IS	Iceland
IT	Italy
LT	Lithuania
LV	Latvia
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SK	Slovakia
TR	Turkey
UK-EN	England in United Kingdom

Other abbreviations

CBS	Copenhagen Business School
EAS	External allocation system
HEI	Higher education institution
IAS	Internal allocation system
NRC	National Rectors' Conference
PBF	Performance-based funding
STEM	Science, Technology, Engineering and Mathematics

GLOSSARY

Additional income/funding streams: all sources other than direct national/regional public funding and student financial contributions are considered in this report as "additional funding streams" or "additional income sources". It includes income generated from contracts with the private sector (both research contracts and education-related activities), philanthropic funding, income generated by the provision of services (consultancy, rental of facilities, residences, catering, libraries, museums...) and income through financial activities. It also considers efficiency measures.

Block grant: financial grants meant to cover several categories of expenditure such as teaching, ongoing operational costs and/or research. Universities are responsible for dividing and distributing such funding internally according to their needs (the flexibility may be curtailed by minor restrictions).

Co-funding: funding for which the main funder requires the beneficiary institution to raise a proportional amount of the full cost of the activity or project being funded, from its own budget or another public or private source.

Competitive funding: funds allocated to institutions through competitions following applications (proposals) submitted to a competitive selection process. These funds are usually attached to a project or are targeted towards the achievement of specific objectives or priorities defined by the funder.

Full costing: the term "full costing" refers to the ability to identify and calculate all direct and indirect costs of an institution's activities including projects.

Funding formula: algorithm based on indicators as variables to calculate the size of public grants to higher education institutions for teaching and/or research and/or ongoing operational activity. Indicators may include input and/or output elements and other criteria.

Income diversification: generation of additional income (through new or existing funding sources) that contributes to balancing the income structure of the institution.

Indirect costs: costs that have been incurred for activities, but which cannot be identified and charged directly to each individual activity. A similar term is "overhead".

Merger: A merger is considered to have taken place when at least one institution has ceased to exist as a legal entity, having been incorporated into either a new or existent institution.

Philanthropic funding: funding obtained from foundations, corporate donors, or individuals acting independently from government and for the public benefit by supporting the university's activities through grants or non-financial means (donation of land, buildings …) or by operating their own programmes.

Project-based funding: universities apply for funds and the application is estimated on the basis of meeting the set of criteria and/or on the basis of competition between other institutions.

Student financial contributions: a generic term including both "tuition fees" as contributions paid by students to cover all or part of tuition costs in higher education; and "administrative fees", as contributions of students to different administrative costs (entrance fees, registration fees, certification fees).

Targeted funding: funding earmarked for the achievement of specific goals set by the public authorities. It may be allocated through competition or directly attributed to the university. Co-funding requirements may apply.

APPENDIX I

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Examples

APPENDIX II

Participating experts and institutions

List of Steering Committee members in DEFINE

Esa Ahonen	Head of Financial Planning	Aalto University	Helsinki	Finland
Marianna Bom	Chief Financial Officer	Aalto University	Helsinki	Finland
Alain Beretz	President	University of Strasbourg	Strasbourg	France
Paola Mattei	Governing Body fellow of St Antony's College	University of Oxford	Oxford	United Kingdom
Thomas Schöck	Head of Administration	Friedrich-Alexander University of Erlangen-Nuremberg	Erlangen	Germany
Pedro Nuno Teixeira	Director	Centre for Research in Higher Education Policies (CIPES)	Porto	Portugal
Wilbert van der Meer	Head of Educational Policy and Strategy	Copenhagen Business School	Copenhagen	Denmark
Rafael Zorrilla Torres	Deputy Head of Administration	University Carlos III of Madrid	Madrid	Spain

List of national rectors' conferences that responded to the DEFINE questionnaire and interviews:

Universities Austria
Flemish Interuniversity Council
Rectors' Conference, French Community of Belgium
Czech Rectors Conference
Universities Denmark
Universities Estonia
French Conference of University Presidents
Universities Finland
Irish Universities Association
National Rectors Conference in Iceland
Conference of Italian University Rectors
Latvian Rectors' Council
Lithuanian Universities Rectors' Conference
Association of Universities in the Netherlands
The Norwegian Association of Higher Education Institutions
Conference of Rectors of Academic Schools in Poland
The Conference of the Rectors of the Spanish Universities
Slovak Rectors' Conference
Association of Swedish Higher Education
swissuniversities
Turkish University Rectors' Conference
Universities UK
German Rectors' Conference
Portuguese National Conference of Rectors

List of institutions represented in the DEFINE focus groups held in 2014.

Participants in the focus group on performance-based funding are marked [1], in the one on mergers and concentration processes are marked [2], and in the one on funding for excellence are marked [3]:

Aalto University, Finland [2]
Brandenburg University of Technology Cottbus-Senftenberg, Germany [2]
Cardiff Metropolitan University, UK [2]
Cardiff University, UK [2]
Charles University, Czech Republic [1]
Dublin City University, Ireland [2]
Dutch Association of Universities (VSNU), The Netherlands [1]
Copenhagen Business School, Denmark [1]
Friedrich-Alexander University of Erlangen-Nuremberg, Germany [3]
German Rectors' Conference [3]
Ghent University, Belgium [1]
HAN University of Applied Sciences, The Netherlands [1]
Hungarian Rectors' Conference [3]
Leiden University, The Netherlands [1]
Leuphana University Lüneburg, Germany [2]
Linnaeus University, Sweden [2]
Ministry of Higher Education and Research, France [1]
National Council for Higher Education Funding (CNFIS), Romania [1]
Norwegian University for Science and technology, Norway [3]
NUI Galway, Ireland [1]
Ramon Llull University, Spain [2]
St Angela's College, Sligo – National University of Ireland, NUI Galway, Ireland [2]
Swansea University, UK [1]
Technische Universität München, Germany [3]
The Norwegian University of Life Sciences, Norway [2]
The University of Bordeaux, France [2]
The University of Eastern Finland, Finland [2]
The University of Latvia, Latvia [2]
The University of Lisbon, Portugal [2]
The University of Manchester, UK [2]
The University of Tartu, Estonia [2]
The University of Tromsø – The Arctic University of Norway, Norway [2]
Universidad Autonoma de Madrid, Spain [1][3]
Universitat Autonoma de Barcelona, Spain [3]
University of Coimbra, Portugal [1]
University College Cork, Ireland [1]
University of Graz, Austria [1]
University of Helsinki, Finland [3]
University of Szeged, Hungary [3]
University of Oslo, Norway [3]
University of Warsaw, Poland [1]
Waterford Institute of Technology, Ireland [2]

The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 47 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact on their activities.

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