



Center for  
Higher Education  
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# Performance-based funding and performance agreements in fourteen higher education systems

Report for the Ministry of Education, Culture and Science

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## Preface

Although the Dutch higher education system has been familiar with performance-related funding and a dialogue-based relationship with the government for some time, the current bilateral performance agreements (or: performance contracts) are a new instrument in the government's tool kit. It is only since the autumn of 2012 that every publicly subsidised institution has signed such an agreement with the ministry. With the introduction of these bilateral performance agreements between the government and higher education institutions the government wishes to enhance the quality of the higher education system and reward institutions that seek to differentiate themselves from other institutions in terms of the degree programmes they offer and the disciplinary areas covered in their research.

In this report, prepared at the request of the Dutch ministry of Education, Culture and Science, CHEPS provides an analysis of the performance-based funding models and performance agreements that have been in use for some time in a number of higher education systems across the world. In quite a number of countries, governments have introduced performance-based steering tools in order to make their higher education institutions focus on particular outcomes and financially reward them for performance that is in line with government priorities. In Australia, Ireland, Scotland and the Netherlands, performance agreements are examples of new policy instruments in the governmental toolkit. In some other countries, performance-based funding in one form or another has already been in place for a longer time. This is the case in many states in the USA and Germany, in Austria, Finland and in Denmark.

In our overview (and the title of this report) we have made a distinction between performance-based funding and performance agreements. The former term is the broader one; it normally is associated with a type of funding that varies with the performance of the organisation that is funded. The term performance agreements is usually associated to a system that rewards organisations on the basis of expected performance, instead of actual performance. Performance agreements – or performance contracts – look at future performance. This funding approach is applied less frequently than an approach where budgets are based on actual performance. Across the world there are many examples of funding formulas or assessment exercises where universities receive public funds based on results achieved in the (recent) past.

The Netherlands has known performance-based funding formulas already since 1993, and this approach is still continuing. In 2012, an experiment with performance agreements was added as a new element in the government's funding toolkit in order to reward institutions for focusing on the quality of education, the study success of their students, and encourage institutions to work on their individual profile and their reach-out activities (or valorisation).

The functioning of the performance agreements in the Netherlands will formally be evaluated after the first round of agreements - in 2016. This CHEPS report is envisaged to already feed into discussions on the next round – if any – of agreements between individual institutes for higher education and the government. Starting with an earlier (2011) report by CHEPS on the same subject - *Quality-related*

*funding, performance agreements and profiling in higher education*<sup>1</sup> – we updated our information, searched the higher education literature to find examples of systems of performance-based funding and performance agreements and, together with the Dutch Ministry of Education, we decided to focus on the performance-based systems that are in place in the United States (the states of Louisiana, South Carolina, and Tennessee), Australia, Hong Kong, Austria, Denmark, Finland, Germany (the states of North-Rhine Westphalia and Thuringia), Ireland, the Netherlands, and the United Kingdom (in particular: England and Scotland). All in all, these are fourteen funding systems in ten countries.

Our report presents a great deal of information, gathered from laws, white papers, websites of governments and institutions, and expert interviews. Moreover, we used the outcomes of two recently held conferences on the topic of higher education funding.<sup>2</sup> Our research was conducted over the period July 2014-January 2015.

From our overview we conclude that performance agreements seem to be here to stay. However, governments often implement significant changes to the system from one generation of performance agreements to the next. The reasons for change can be many: changing economic realities, different political circumstances, as well as perceptions and opinions on the effectiveness of existing performance-based funding systems. In any case, we have to conclude that there still is not sufficient evidence on the effects of the systems and that our understanding of the proper design and implementation of performance agreements is still incomplete. This implies that straightforward conclusions in the form of ‘policy recipes’ are hard to make. The circumstances and policy goals for countries will continue to be different. Therefore, the design, the processes around and the implementation of performance-based funding models and performance agreements very much differ across countries and systems. There is no compelling evidence on what works well under which conditions. The reality is that ‘context matters’ and, given the uniqueness of each higher education system, experiences from elsewhere always must be interpreted with care.

Therefore, our first recommendation would be not to copy ‘blindly’ the design and implementation of performance agreements from other countries, as their culture, political and legal system, policy style, size, higher education system characteristics and strategic agendas are different. Nonetheless, experiences from elsewhere are an important source for inspiration and a valuable input for discussion and evaluation. With this report we want to highlight a number of key issues to be taken into account when the introduction or evaluation of performance agreements is being considered.

The report consists of two parts. The first part is a reflection on the information found in the ten country studies. It identifies some cross-cutting themes and conclusions. It touches primarily on performance agreements (and not so much on systems that reward past performance) and discusses the main features and effects of performance agreements. It also identifies a number of open questions, trade-offs and dilemmas. The second part of our report contains the ten country studies; each offering a detailed description of performance-based funding and performance agreements, the policy context, as well as an impression of the effects of performance agreements.

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<sup>1</sup> See: <http://tinyurl.com/g7cyrve>. This 2011 report by CHEPS looked at Australia, Denmark, Norway, Sweden, Finland, England & Wales, Germany, Hong Kong, New Zealand.

<sup>2</sup> Country-focused workshop in The Hague (25-26 September 2014) on “Performance agreements and their relationship to funding in higher education” and Meeting of the Directors General for Higher Education in Palermo (20-21 October 2014) on “Performance oriented funding policies in higher education: modernization as sustainability”.

We would like to thank the experts we contacted in the various countries included in this study. Without their input we would never have been able to provide an up to date overview of performance-related funding mechanisms. Of course, any errors or misinterpretations included in this report are the sole responsibility of the authors. We have tried to be as accurate as possible, but sometimes understanding numbers and regulations is difficult - and things may have changed in the meantime.

Finally, we want to thank our sparring partners in the Ministry of Education, Culture and Science for the constructive working relationship we experienced during our research project and the interesting discussions we had during our meetings and conferences. We hope our report presents some 'food for thought' for the debate on the issue of performance-based funding.

Enschede, March 2015

# **PART ONE: REFLECTIONS**

## 1. Introduction to Part One

Based on the information gathered for fourteen higher education funding systems in ten countries (see Part Two of this report) we are making a number of observations on the rationale, design and impact of performance-based funding models and performance agreements. While the detailed descriptions of the 14 funding systems may be found in Part Two, we have summarised some of the main features and issues in a number of Appendices at the end of Part One. This will allow the reader to obtain a quick impression of the differences across the national funding systems and, in particular, the elements that relate to performance-based funding.

As already mentioned in the Preface, performance-based funding is to be understood as a type of funding where the (public) budget of a higher education institution varies with the performance of the institution. The (key) concept of performance will first be discussed in the next section. In many countries, funding formulas are used to determine the public budget that higher education institutions will receive. The performance of an institution is fed into the formula to calculate the budget. In most cases the formula works on bases of the results achieved in the recent past. In contrast to such an ex-post approach, a performance agreement usually is associated with a funding system that rewards organisations on the basis of the performance that an institution expects to deliver in the (near) future. As such, performance agreements – or performance contracts – are less frequently applied for funding institutions. However, this situation is changing, as nowadays there are quite a few countries that (partly) fund their higher education institutions on the basis of future performance - often in combination with ex-post funding formulas.

The countries covered in this report all make use of some form of performance-based funding and/or performance agreements – each applying their own specific version or combination and each having experienced some of the effects (expected and unexpected) of its operation. In this part of the report we present some of the observations and lessons that may be drawn from the funding systems in the following higher education systems:

Australia, Austria, Denmark, Finland, Hong Kong, Ireland, Germany (North-Rhine Westphalia, Thuringia), the Netherlands, the United Kingdom (England and Scotland), the United States (Louisiana, South Carolina, Tennessee).

## 2. Performance-based funding models

The models for funding public higher education institutions vary enormously among the higher education systems that we have studied (see Appendix B for a quick overview). There are differences in: the activities funded (dependent for example on the particular higher education subsector), the proportion of performance-based funding, the performance indicators used, the weights attached to the indicators in the models.

In this section we will focus on the performance indicators and the volume of the performance-based budget as part of the overall government budget for higher education.

In order to do so we need to define what is counted as a performance. As we will outline in this section, opinions on what exactly is understood as being performance differ very much across different higher education systems as well as between the subsectors in the higher education system (i.e. the subsectors of research universities, universities of applied sciences, etc.). Most countries use



particular performance indicators for different institutional types, and in many cases the weights attached to the indicators differ – between countries, within countries, and between the different subsectors.

Frequently used performance indicators in the funding models are:

- Number of Bachelor and Masters graduates / degrees: Austria, Finland, Netherlands, North-Rhine Westphalia, Thuringia, Tennessee;
- Number of exams passed or credits earned by students: Austria, Denmark, Finland, Tennessee, Louisiana, South Carolina;
- Number of students from underrepresented groups: Australia, Ireland, Thuringia, Tennessee;
- Study duration: Austria, Denmark, the Netherlands, Tennessee;
- Number of PhD graduates: Australia, Denmark, Finland, Thuringia, Netherlands;
- Research productivity: Australia, Denmark, Finland, United Kingdom (England, Scotland);
- Research performance in terms of winning (research council) contracts: Australia, Finland, Hong Kong, Ireland, Scotland, Tennessee;
- Third party income: Australia, Denmark, Finland, North-Rhine Westphalia, Thuringia, Hong Kong;
- Revenues from knowledge transfers: Australia, Austria, Scotland.

Less frequently used performance indicators are:

- Internationalisation (student or staff): Finland;
- Quality of education based on student surveys: Finland, Tennessee;
- Employability indicators, e.g. the number of employed graduates: Finland;
- Research quality: Hong Kong, United Kingdom (England, Scotland).

In several countries, institutions receive a large part of their public funding based on the number of enrolled students, for instance in systems where the government, or one of its agencies, specifies the number of funded study places. We would argue that the number of enrolled students is not a performance indicator. When, however, the share of enrolled students is taken as a funding parameter, as is the case in Thuringia, then we might consider this as a performance indicator ('market share').

The relative volume of the performance-based funding as part of the government's budget for higher education is hard to determine in an exact way. Here we provide an estimate per country for the university sector.

- Australia. Based on the number of enrolled students, Australian universities receive funding for education (the Commonwealth Grants Scheme). Funding for research is almost fully performance-driven – it is based on the volume of the competitive research income received by the universities, the number of students completing a research degree and the volume of the universities' research publications. The quality of the research publications is evaluated in a national assessment (the ERA: Excellence in Research for Australia) and taken into account in the calculation of about 10% of the research allocation. Given that education funding constitutes some 70% and that research funding some 20% of the total basic grant (block fund) received by universities from the Commonwealth government, this implies that some

20% of total core funds of Australian universities is performance-driven – and fully formula-based.

- Austria. The Austrian universities receive a global budget from the federal government that consists of a basic budget and a so-called *Hochschulraum-Strukturmittel (HSM)* component. Although we have not been able to obtain system-level figures, the bilateral contracts between the government and the individual universities indicate that the basic budget covers about 94% to 96% of the global budget and the HSM about 4% to 6%.<sup>3</sup> A clear estimate of the relative size of ‘real’ performance-based funding is hard to give, because both the basic budget and the HSM contain some performance indicators. The basic budget is based on a performance agreement, but not all parts of these performance agreements are “performance-based”. Nevertheless, we would argue that from a general point of view the public funding of Austrian universities is to a large extent performance-driven.
- Denmark. Approximately 90% of the university funds come from the state. Of these public funds, for universities about 60% is performance-based. Universities are funded for education (fully performance-based), for basic research (partly performance-driven – estimate: 30%), and through competitive research funding (such as research councils and EU-projects).
- Finland. The direct core government funding covers about 64% of the Finnish universities’ budget, of which 75% is performance-based (for universities of applied science the core funding is completely based on performance).
- North-Rhine Westphalia. In 2013, the global budget from the state consists of a basic budget, covering 77% of the global budget, and a performance-based budget, covering the remaining 23%. These percentages are the same for universities and universities of applied sciences, but the weights of the three indicators (number of graduates, income from third party funding, and share of female professors) in the performance budget differ between the two sectors.
- Thuringia. The total public budget for higher education consists of a core budget (80%), a performance-based budget (14,5%), and an ‘innovation’ budget (4,5%). It should be noted however that the core budget contains performance indicators as well. From the core budget, 37,5% is allocated on the number of graduates (22,5%) and the share of third party income (15%). Therefore, we would argue that the volume of the performance-based allocation is bigger than the 14,5% of the performance-based budget suggests (in fact, we would argue that this is 54,5% : 14,5% plus 30% (37,5% of the 80% of the core budget)).
- The Netherlands. Public funds for universities and universities of applied sciences are primarily based on a funding formula. This formula determines the (combined) block grant for education and research. The formula includes a number of performance indicators (graduates, including PhDs awarded). Around 20% of the budget for education is performance-based. From 2012 onwards, 7% is added to the education compartment in the block grant. This amount is granted, based on individual performance agreements between the education ministry and higher education institutions. Combining the performance-driven parts of the funding formula and the performance agreements, this implies that 27% of the education budget compartment for research universities and universities of applied sciences is performance-based. For the research universities, in addition, some 37% of the research budget is based on the number of diplomas and PhDs awarded. Given the relative sizes of

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<sup>3</sup> We checked for five universities: University of Graz (94,4% resp. 5,6%), University of Innsbruck (94,3% resp. 5,7%), University of Linz (95,8% resp. 4,2%), Technological University of Vienna (94% resp. 6%) and University of Salzburg (95,5% resp. 4,5%)

their education and research budget this implies that 32% of the research universities' total public budget is performance-based. For the universities of applied sciences this share is 27%.

- Hong Kong. The public funds provided by Hong Kong's University Grants Committee consists of capital grants, recurrent grants and a matching grant scheme. The recurrent grant has three components: teaching (75%), research (23%), and 'professional activity' (2%). Funding for teaching is not performance-based: the UGC sets the student quotas. The research component, however, is performance-driven and largely depends on the outcomes of the Research Assessment Exercise.
- Ireland. Ireland's public funding model for higher education has three components: institutional funding for education, capital funding for infrastructure and facilities, and research funding. The institutional funding component is based on student numbers and, as such, not performance-based. Research funding is allocated on a competitive basis through research councils and the like. In 2014, performance contracts were introduced – covering a small part of the annual core funds for teaching. While the contracts initially only amounted to some €5 million for all Irish institutions combined, they are expected to grow in size. It is envisaged that 10% of the institutions' core recurrent grants allocated by the funding authorities will become at risk if institutions are not delivering against the objectives stated in their 'performance compact'. Given the size of the recurrent grant in the total institutional funding this would imply that some 6% of the institutions' funding will become dependent on performance.
- England. English universities receive a teaching grant and a research grant (and a capital grant). The teaching grant is based on student numbers, while the research grant is based on research performance – that is the quality of the research carried out in the universities' departments. Both grants are roughly equal in size. Initially a university's research grant was driven by the scores in the periodic Research Assessment Exercise (RAE), carried out by evaluation panels. In 2013, the RAE was replaced by the Research Excellence Framework, that, in addition to the quality of the research, also evaluates the societal impact of a university's research. In any case, this means that some 50% of a university's annual grant is dependent on performance. England has no performance agreements – funding is fully based on formulas driven by student numbers and (past) research performance.
- Scotland. The overall public budget for Scottish universities is allocated through three major components: a teaching grant (roughly 60%), a research and knowledge exchange grant (25%), and a 'strategic and innovation' grant (15%). The teaching grant is not performance-driven (mainly based on student numbers for which the Scottish Funding Council (SFC) sets target quotas). The research component is mainly performance-driven, in the sense that a) the SFC's research block grant is based on the outcomes of the Research Excellence Framework (REF) that operates throughout the UK, and b) consists of income from competitively awarded research councils. Overall this implies that the share of the recurrent grant that is tied to performance is 25% (due to the REF connection), but the fact that the teaching grant is closely linked to an Outcome Agreement (the Scottish version of Performance Agreements) one might argue that actually 85% of recurrent funding is based on performance.
- Tennessee. This US state applies the 'Performance Funding 2.0' model. The formula-driven public funding of the institutions is known for being completely performance-based (although there are some fixed cost elements that make up about 18% of the universities' budget). The

basic model contains ten performance parameters. On top of this, institutions can obtain a 5,45% bonus if they perform well compared to the other institutions on particular issues determined by the state. There is no performance agreement as such in Tennessee.

- Louisiana. The current funding model in Louisiana has a formula-based core funding component, which covers 75% of the public budget, and a performance component (25%). In turn, the performance component has two parts: 15% is performance driven, and 10% can be a ‘bonus’ for good performance.

The table below gives an at-a-glance overview of the relative importance of performance elements and performance agreements in each national system’s funding model:

	Share of Performance-based budget in total recurrent funding	Performance Agreement (PA) in place with direct impact on an institution’s budget allocation?
Netherlands	27% - 32%	Yes
Austria	Almost 100%	Yes
Australia	20%	No (PA is condition for funding)
Denmark	60%	No
England	50%	No
Finland	75% - 100%	Yes
Hong Kong	23%	Yes
Ireland	0,8% (now) – 10% (future)	Yes
North-Rhine Westphalia	23%	Yes
Louisiana (USA)	25%	No
Scotland	85%	Yes
Tennessee (USA)	100%	No
Thuringia (Germany)	55%	Yes

Note: See Part Two of this report for further explanations

### 3. What are performance agreements?

Performance agreements are contracts between the government and individual higher education institutions, which set out specific goals that institutions will seek to achieve in a given time period.<sup>4</sup> They specify intentions to accomplish given targets, measured against pre-set known standards. Performance is deemed to be the fulfilment of an obligation laid down in the contract. In contemporary higher education we can find these kinds of agreements under different labels and headings. Apart from performance agreements/contracts there are compacts (Australia, Ireland), target agreements (some German states), outcome agreements (Scotland) or development plans (Hong Kong, Denmark).

This description of a performance agreement immediately raises interesting questions. First, to what extent does this description differentiate between the prescription of a certain outcome (a result that is to be achieved) and the effort an actor reasonably has to make (a ‘guide for behaviour’; a level of effort an actor is capable of bringing to an activity). Such a difference refers to the distinction between

<sup>4</sup> Source: Findings from the country-focused workshop in The Hague (25-26 September 2014) on “Performance agreements and their relationship to funding in higher education”.

'hard' and 'soft' contracts. The nature of performance agreements currently in use in higher education indicates that both forms of contracts exist.

What counts as a performance is often a matter of discussion – sometimes, even a matter of taste. Is attracting international students a performance? Is employability (in the sense of graduates finding suitable employment after graduation) a performance to be attributed to an institution? Is maintaining minimal quality standards in education a performance? We would argue that performance is goal- or problem-oriented, results-based and measured against pre-set standards. These standards are the result of a political decision, a negotiation process among stakeholders, or a benchmark (where a standard set means doing better than others).

Secondly, does this description of performance agreements imply that the agreements necessarily are coupled with (public) funding? Can one speak of performance contracts if no funding is attached to the agreements? If there is no funding linked to the agreements made between the government and the institutions we would prefer to speak of 'letters of intent' instead of 'performance contracts'. The latter would imply that the contract partners agree to focus on certain activities (i.e. make a serious effort) with the aim to accomplish particular goals, but without direct financial consequences (i.e. rewards, sanctions). Using this distinction we have come across both letters of intent (Denmark, the Netherlands in earlier years, Australia in today's version) and performance contracts (Austria, Ireland, Finland, the Netherlands today). In some countries we find contracts that contain both intentions and (hard) performances.

#### 4. The aims of performance agreements

Our information on performance agreements (see Part Two) also demonstrates that governments have many different reasons to introduce performance agreements. Performance agreements can have the following aims:

1. To encourage institutions to strategically position themselves. This is also known as *institutional profiling*. Performance agreements are expected to contribute to establishing a diversified higher education system - the bilateral nature of the agreements should enable this.
2. To establish and/or improve the strategic dialogue between the government and the institutions, with the intention to align national and institutional agendas, policies and activities.
3. To improve the core activities of the institutions. This often refers to a higher quality of teaching, research and outreach, higher levels of productivity, or securing minimum standards (by means of weeding out underperformers).
4. To increase the efficiency of the institution's activity. The specification of targets and indicators referring to completion rates, drop out, or students' time to degree is an example.
5. To inform policy makers and the public at large on the system's and individual institutions' performance, in return for public subsidies (thus improving accountability and transparency).

Before parties actually start contract negotiations on performance contracts of some sort they not only should have defined their own goals, but first and foremost will need to understand the rationale for the contractual relationship. This rationale is important, as it will impact on the design, the process and the evaluation of the agreement as a policy tool. To improve the dialogue between the

government and the institutions, soft agreements, such as letters of intent may work better than hard (cash-based) contracts that make institutions think twice before they will sit around the table for negotiations. To determine whether or not the performance agreements are effective (in terms of goal achievement) will depend on the goals – or ‘the problem to be fixed’. It is likely that governments will have several aims in mind when they introduce performance agreements. Clearly, this will affect the design, the processes and the evaluation of performance agreements.

### Ad 1. Institutional profiling and system diversity

The first aim – to use performance agreements to establish or maintain a diversified higher education system – is found in a number of countries we focused on (e.g. Austria, Ireland, Germany, Finland and the Netherlands). The virtue of a diversified higher education system is a well-recognised goal.<sup>5</sup> Performance agreements are thought of as fitting this goal well. The Austrian *Wissenschaftsrat* concluded that such agreements do contribute to a more diversified Austrian higher education landscape. Experiences from other countries however reveal that this is not by definition the case. The Finnish case shows that performance agreements (and the performance-based funding models attached) have indeed stimulated institutional profiling, but at the same time this has not led to a more diversified system. From Germany we learn that, because institutions must respond to the same issues, the agreements may have led to homogeneity instead of heterogeneity at the system level. Literature on the ‘diversity debate’ suggests that, if institutions are rewarded in the same way for the same outputs, then they will inevitably seek the same ways of maximising their income. And when targeted funding policies do not have explicit diversity objectives, they risk promoting institutional convergence.<sup>6</sup> As regards the design of performance agreements, this should be taken into account.

### Ad 2. Improving dialogue

The second aim for developing performance agreements – improving dialogue – can also be found in several countries, particularly in those countries where there is, in a comparative sense, hardly a tradition in the sense of a relationship between the government and the institutions that is characterised by dialogue. This is the case in countries with traditionally either strong government regulation or high levels of institutional autonomy. The rationale of performance agreements is to develop a context where government and institutions meet to discuss how institutions can (or have to) contribute (better) to the national agenda for higher education. The experiences indicate that performance agreements, particularly the softer versions such as letters of intent, are a promising stepping stone to improve interaction and to create common ground for aligning agendas and seeking consensus. Examples are Ireland and Scotland. In other countries, such as the Netherlands, the perception is that this should be considered only as a first step. For ‘real impact’ more focused tools (and linking the agreements to money) would be required.

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<sup>5</sup> The following quote from the European Commission’s Modernisation Agenda is illustrative and picked up by many countries:

*Europe needs a wide diversity of higher education institutions, and each must pursue excellence in line with its mission and strategic priorities. With more transparent information about the specific profile and performance of individual institutions, policymakers will be in a better position to develop effective higher education strategies and institutions will find it easier to build on their strengths. (European Commission).*

<sup>6</sup> See: Codling, A. and Meek, V.L. (2006). ‘Twelve Propositions on Diversity in Higher Education’, *Higher Education Management & Policy*, vol. 18, issue 3, pp. 23-47.

#### Ad 3 & 4. Improving core activities: quality, productivity and efficiency

The evidence we collected on the basis of our ten country case studies and the underlying literature review leads us to conclude that there is no compelling evidence about a direct relationship between performance agreements (or performance-based funding) and quality, productivity and efficiency in higher education. However, we did observe that in some countries clear improvements on these three areas were reported in the years following the introduction of performance agreements. In Denmark, the universities' third party income as well as their publication outputs increased since the introduction of development contracts. In Finland, the introduction of performance agreements appears to have contributed to an increased cost and performance awareness. In North-Rhine Westphalia (Germany), internal university decision-making was affected positively. Both in Louisiana and Tennessee (United States) graduate numbers have gone up.

#### Ad 5. Accountability and transparency

Monitoring and reporting on progress and performance targets can be used for reasons of accountability and transparency. In some countries this is one of the aims that is explicitly stated. Most countries indicate that performance agreements do contribute to more transparency and better accountability (unless the outcomes of the evaluations are not made public). It is common that institutions must report on their performances in annual reports. Performance agreements often are accompanied with a requirement to report (annually) on progress and performance. In some countries, independent bodies play a role in the assessment of the performance agreements (for example in the Netherlands and Hong Kong).

### 5. Performance agreements and other policy instruments

Performance agreements are always used alongside other policy instruments. For example, the agreements could be linked to (performance-based) funding models. In some countries there is a direct link between the targets set in the performance agreements and the core recurrent funding allocated to the institutions (e.g. Austria, Finland – see table above). In other countries, core funding and performance funding are treated separately (e.g. Louisiana). And there are countries where performance agreements and core funding allocations are not directly linked (no immediate funding coupled to the agreements, e.g. Denmark).

Performance agreements can also be linked to, or be affected by, quality assurance systems, student selection mechanisms or the results of particular data collections (such as student satisfaction surveys). In the United Kingdom and Hong Kong, Research Assessment Exercises are an example of the linking of performance agreements and evaluation instruments. Also in other countries (e.g. Australia, Denmark) research assessments (bibliometric tools to assess research productivity or research impact) are connected to performance agreements. The interplay between the different policy instruments requires careful consideration as it may have unintended consequences. We will give two examples.

Firstly, when institutions can select their students they may adjust their admission policy as the result of performance agreements. They may decide to be less restrictive in order to meet the targets agreed upon (e.g. contributing to a widening access agenda). Alternatively, they may decide to be more restrictive and only pick the brightest students ('cherry picking', to meet completion/graduation targets). The latter was the case in Tennessee, where this interfered with the government's objective to enhance educational attainment.

Secondly, the interplay of different policy tools can lead to duplication and overlap. Reporting requirements flowing from the performance agreements can add an additional accountability layer. Performance agreements, particularly when they are comprehensive, focus on institutional profiling or, being part of stimulating the dialogue with the government, can overlap with strategic plans of the institutions. This is the case in the Netherlands and Ireland. This may result in complaints coming from the higher education institutions - as voiced for example in Austria as well as in Denmark. As a result of this, amongst other things, the development contracts in Denmark were changed from 'comprehensive strategic plans' to 'selective mission-based contracts'.

## 6. Performance agreements and institutional autonomy

During the last two decades, authorities and responsibilities among stakeholders in higher education often were considerably redistributed. An overarching trend in European higher education governance has been to enhance the autonomy of the higher education institutions.<sup>7</sup> It is debatable to what extent higher education institutions perceive this autonomy to be real, and the introduction of performance agreements can be part of such a debate. In several countries it has been argued that, despite the delegation of authority to the institutions (which is undeniably true in most countries), performance agreements are just another way for the government to stay in control. Performance agreements then are argued to stress the resource dependency of institutions and limit the institutions' room for making their own choices. This form of conditional funding stands in contrast to lump sum funding, which is seen to fit institutional autonomy best. Critics of performance agreements often underline the saying of "he who pays the piper, calls the tune".

There certainly is a tension between performance agreements and institutional autonomy, but the nature and extent depends on the design, process and implementation of the performance agreement. As regards the room left to the institutions to make their own decisions and trade-offs, the depth and scope of the agreements are crucial. The more comprehensive the agreements and the greater their level of detail, the more they will intrude on the institution's autonomy. And the less institutions are engaged from the outset in the design and implementation of this steering tool, the stronger this perception of governmental control over the institutions will be. If, however, performance agreements are perceived as a true joint effort in which both parties can express their interests on a limited number of issues and leave institutions some room on how to approach them, this perception will be different.

## 7. Transaction costs

The design of performance agreements and their monitoring and evaluation requires significant efforts from various actors: government, institutions, agencies, and independent experts. In designing the agreements, the government, usually in consultation with the higher education institutions, not only has to develop a system of rules, procedures, guidelines and templates, but also needs to have or to establish a national agenda from which the key issues have to be negotiated. Without a clear vision on what the government intends to achieve, agreements are unlikely to be very effective. "If you do

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<sup>7</sup> See for example de Boer, H., J. Enders, J. File and B. Jongbloed (2010). *Governance reform. Progress in higher education reform across Europe*. Volume 1: Executive summary and main report. Brussels: European Commission.



not know where you are heading for, it will get you anywhere". It will make the whole exercise pointless and will easily lead to frustration. Also the institutions are forced to think strategically and to translate their vision and goals into negotiable issues for the agreements. In several countries the strengthening of the strategic capacity of the institutions has been one of the (side) goals of establishing performance contracts. Examples are Ireland and some German states. Developing these capacities, as well as the dialogue and negotiation process between government and institutions, possibly facilitated by an independent body, is a time-consuming process by itself. This finding was confirmed in the country-focused workshop on performance agreements held in September 2014.

The monitoring of and reporting on progress and outcomes is another challenge. Consent on indicator measurement, establishment of (undisputed) databases, frequency and level of detail of reporting may cause another time-consuming burden. Additionally, the follow-up on the outcomes of the agreements and the determination of their impact on the institutions' budget requires careful consideration as well. It is not always obvious why particular goals laid down in the agreement have not been achieved, particularly (but not only) in the case of qualitative targets and indicators. Even when non-realisation of targets can be determined objectively, it may be hard to answer the question of 'who is to blame'.

It has not been possible for us to make a fair comparison on transaction costs between performance agreements and alternative policy instruments. We argued above that performance agreements have considerable transaction costs. In several countries, higher education institutions complained about the administrative burden attached to the instrument. However, alternative instruments would require, at least to some extent, similar kinds of monitoring and evaluation efforts, the costs of which also are unknown.

## 8. Performance agreements deal with projected outcomes

### Ex ante or ex post funding?

Performance agreements cover targets and activities that are supposed to be realized in the (near) future. The purpose of such an agreement is to define both parties' responsibilities with respect to a desired set of outcomes. If funding is attached to these projected outcomes, the next question is when the actual funding takes place. This can be done prior to the achievement of the performance (ex ante), in principle with clearance afterwards, or it can be done after the promised performance has been achieved (ex post). When the performance agreements are directly linked to a funding formula, ex ante funding is likely to be the case. One example of performance agreements with ex ante funding is the Netherlands. Amongst other things, the Dutch institutions conditionally receive 5% of their education budget on reaching quantitative targets related to education (student success, teaching quality). If it turns out that, later on, these targets are not met, the institutions risk losing a part or all of this 5%. This will then be settled ('cleared') in a next round of budget (and performance) agreements. As far as we can see, ex ante funding for projected performance is the most common case in practical situations, but theoretically it is possible to allocate funds ex post – as rewards (which is for instance often the case when performance-based indicators are used in a funding formula). In such a case, institutions would have to pre-finance the activity they need to undertake to accomplish the promised performance.

### Legally binding or gentlemen's agreements?

Following up on this, there are a number of related issues. To what extent are agreements between two parties creating an obligation to carry out (or to not carry out) a particular activity, enforceable? If performance agreements are legally binding, parties can go to court in case of disputes over 'non-compliance or non-attainment'. Regarding the question whether or not performance agreements are legally binding, we do not have the full picture. In Denmark, the agreements are not legally binding (being 'letters of intent'), in Finland they are. However, cases where either a government or an institution has gone to court over a performance agreement are extremely rare.<sup>8</sup>

If performance agreements are not legally binding, they must be regarded as 'gentlemen's agreement'. The common opinion is that gentlemen's agreements are only morally binding. This point of view however is not completely undisputed. Consciously made agreements raise expectations that the parties will act in accordance with the agreement and the conditions that the agreement was based on, which promotes confidence not only for the two contract partners concerned but for third parties as well (e.g. students). If third parties suffer from non-performance, legal action cannot be ruled out (depending though on the legal tradition/system of a country).

### Consequences of non-compliance and non-attainment

Performance agreements concern future performance, and because the future is uncertain there is always the risk that promises cannot be kept. This risk obviously increases when the performance agreement's time frame is longer. As a result of that, nearly all performance agreements have *ceteris paribus* clauses and conditions, stipulating that unforeseen circumstances may lead to changes in the agreements (or are a reason to breach parts of the contract). Another common principle is that contracts can be changed if the two parties in mutual understanding agree to do so.

But even when environments remain largely stable, one of the parties may perform or behave differently from what was foreseen (under-performance or over-performance). We now will list a number of examples of 'punish and reward' mechanisms.

In *Austria*, performance agreements distinguish between foreseeable non-achievements and unforeseeable non-achievements. For foreseeable non-achievements universities have to adjust their planning and structures and have to reserve funds that actually had been dedicated to the non-achieved goals. For unforeseeable non-achievements, universities have to analyse the reasons for the non-achievements and report on the outcomes. In *Thuringia*, the consequences in case targets are not met are described in general terms. If a target has not been realized the institution has to explain why this has been the case and what the institution has done to achieve the goals and targets. The ministry can decide to reclaim the funding as well as reduce funding agreed for a future period. For the performance agreements 2008-2011 this has not been the case. In *Hong Kong*, institutions can be required to return part of the funding. Also current performance can be taken into account in the negotiations about upcoming agreements. If *Dutch* institutions do not meet their targets, they can lose part, or all, of the 5% compartment in their 'performance-based budget' for enhancing

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<sup>8</sup> There was one case in the Netherlands where an institution took the Ministry to court, arguing that the financial consequences tied to their performance agreement were not based on a fair judgment and that some underlying arguments were missing. The claims of the institution, however, were not honored, but the Ministry did have to produce additional information and arguments to explain the level of ex ante funding tied to the performance agreement.

educational quality, which is to be settled in a next round of funding. In *Louisiana*, underperforming institutions are denied certain privileges such as raising their tuition fees (5%-10%) or being granted operational, financial and management autonomy. In *Finland*, where performance agreements are legally binding, no cases have been taken to court. The Finnish ministry, however, stresses that any issues are settled in dialogue, amongst other things via site visits.

During the country-focused workshop in The Hague (see footnote 4) it was argued that in order to moderate the impact of financial penalties, governments may consider building transition or improvement periods into cycles of performance agreements. Such a second chance option would imply that institutions will get a “red card” only after a “second yellow card”.

## 9. Stakeholder participation

Performance agreements are a joint undertaking. Both the literature and the experiences with the performance agreements reported in Part Two of this report studied suggest that involving stakeholders throughout the process is important to establish agreements that are effective. This implies that without neglecting the responsibilities of the various parties, relevant groups from the government, the institutions, the academic staff, and student organisations should be involved in the design and the implementation of the agreements. While the government is in the driver’s seat (e.g. developing guidelines and templates), institutional involvement in the early stages of the process will enhance the successful development of the agreement. This implies that institutions not only voice their interests and negotiate about the content of the agreement, but also can express their views and ideas on the guidelines, the criteria, the monitoring system and the way of reporting. One of the issues for instance concerns the measurement of the targets and indicators. Without consensus about how and by whom target achievement will be measured, the outcomes of the agreements will be disputed (and distract from the ‘real issues’). While it is plausible that institutions in principle may resist the idea of performance agreements (for example because they feel it intrudes on their autonomy), serious participation and mutual ownership is likely to facilitate the process. Experiences in the U.S. suggest that governments should allow for institutional autonomy.

While participation throughout the design process of performance agreements contributes to the acceptance of the idea of steering through performance agreements, ‘time to get acquainted’ (learning) is another important aspect. In countries with a ‘performance agreements history’ the actors have become familiar with the approach and will have put the systems and people in place. Some patience as well as a continuous evaluation of the process (are we doing the right things and are we doing them right?) are recommendable.

As far as we were able to ascertain, students do not play a prominent role in the processes leading up to performance agreements. At the system level, student organisations may have been consulted informally on some of the goals and the design principles, but the student voice is not heard prominently. However, in higher education institutions, student representatives do play a role in the institution’s governing boards and its decision-making around the plans for and implementation of performance agreements.

Besides institutional engagement, also (broad) political support will contribute to successful performance agreements. A minister of education with full political support is better positioned at the negotiation table than a minister who lacks such support.

An interesting idea is to install an independent committee, in which various areas of expertise are represented (e.g. covering teaching and learning, research, student interests, industry needs, institutional strategy). There are several roles such an independent body could have. There could be an independent body for guiding and handling the process. Other possibilities are a counselling role, for example advising on the agreements, or an evaluator role, assessing the progress and outcomes of the agreements. In Hong Kong and the Netherlands there is such an independent body.

## 10. Trade-offs and dilemmas

There is a long list of trade-offs that designers of performance agreements have to face. Several of these trade-offs have been touched upon above. Positions and choices will depend on the aims of the performance agreements, as well as the context in which they are supposed to function. Our study of the performance agreements from several countries did not reveal a clear pattern on the trade-offs. Therefore, we now present a list of dilemmas we recommend to be taken into account without stating that one option should be preferred over the other.

### Quantitative and qualitative measures

One of the potential advantages of performance agreements over other instruments such as formula-based funding, is that one can decide to take both quantitative and qualitative measures into account. The appeal of having the opportunity of taking qualitative measures on board is that some issues that are deemed crucial for the development of a higher education system at a certain moment in time can be included. The downsides of using (also) qualitative targets is that they are usually less clear and transparent, that the transaction costs are (relatively) high, and that disputes may arise when the realisation of qualitative targets needs to be assessed.

A strong focus on quantitative measures (or KPIs) has its appeal. They can be SMART, transparent, and create a sense of objectivity (albeit that they certainly are not value-neutral). Assessment of performance is in the case of quantitative measures relatively easy. A clear and visible set of measures, as optimists would argue, stimulates focused action and makes sure that (at least) what is measured gets done. The downside, pessimists would argue, is that *only* what is measured gets done. Critics may argue that institutions will only focus on quantifiable issues and neglect issues that may be just as (or even more) important for higher education. It leads, they argue, to tunnel vision and encourages a limited portrait of actual performance. Performance agreements based on (primarily) quantitative measures are likely 'to hit the target but miss the point'. By explicitly steering on quantitative targets, institutions may be encouraged to concentrate on 'easy' targets ('cherry picking') and they may be tempted to lower quality standards in order to meet targets, or even cheat.

A related issue concerns the level of detail of the measures in the performance agreements. On the one hand there is the option to focus on very specific smart goals. On the other hand, goals and intentions can be (and usually are) formulated in a quite broad sense. The choice for one of these options will largely depend on the aims of the performance agreements. For improving the dialogue and creating a mutual understanding of the key issues, reaching consensus on broad goals seems to be the best option.

### Stability and flexibility

An important reason to establish performance agreements is to create a sense of stability and predictability around the higher education institutions' budget, while simultaneously creating some

degree of flexibility is also supposed to be one of its most important assets. The time frame for which performance agreements are concluded usually runs from two to six years. The multi-annual time frame is expected to guarantee stability, security and confidence (in particular related to the institutions' future budgetary situation). In principle, the longer the time frame chosen, the higher the potential stability. But because agreements are about future-oriented objectives, a sense of flexibility is felt as well. In some countries, the annual reporting on progress may lead to an adaptation of the institution's agreement (e.g. Scotland). Obviously, this does not contribute to stability and predictability.

Performance agreements are a flexible policy tool in the sense that the content of the agreements from one round to the other can change (without having to go through legislative procedures and processes). The advantage of the instrument is that it can address the issues that are considered to be important in a particular time period. The downside, however, of such an 'ad hoc' approach is that the long term perspective may be overlooked. There is a risk that, because of its flexibility, the recent past and the present situation will attract more attention than the issues that are important for the long term.

### Uniformity and specificity

Another crucial design factor for establishing performance agreements is to what extent these agreements should be made with the higher education sector as a whole, its sub sectors, or individual institutions. In principle, bilateral agreements are suitable for 'tailor-made' contracts, differing in some degree from one institution to the other. For the aim of establishing a highly diversified higher education system or for optimally supporting the strengths of existing institutions this appears to be a promising feature. Agreements addressing the entire sector bear the risk of institutions all moving into the same direction. Moreover, as reported in some countries, when institutions have to strive for the same objectives they may not all start from the same position, implying that some institutions will be privileged over others. Tailor-made contracts, however, will have high transaction costs and require that the government has the capacity to oversee what the consequences of the different contracts are for the system as a whole.

From several countries the experience shows that it makes sense to take the differences between different types of institutions into account. Intentions, targets and measures that apply to the research university sector often will not be applicable to universities of applied sciences. By the same token, different types of agreements to allow for the different characters of comprehensive and specialised institutions are worth considering.

### Comprehensive or focused agreements

Another key design issue concerns the number of topics to be covered in the performance agreements. Obviously, transaction costs will increase as soon as the number of topics covered in the agreements increases. In terms of manageability, focused agreements are to be preferred. This implies that additional policies and instruments will be required to cover areas that are not covered by the agreements. Moreover, a system of comprehensive contracts may lose some of its appeal in creating a dialogue between government and institutions since the entire national agenda will have to be incorporated into the contract negotiation.

Countries that have a longer history with performance agreements (such as Finland and Denmark) tend to show a shift from comprehensive contracts to more narrow and focused agreements.

### Attaching substantial or marginal budgets to performance agreements

A first question here is whether performance agreements can be effective without having funding attached to them. Opinions on this issue greatly differ. On the one hand, it has been argued that, if there is no money involved, institutions are less willing to adjust their behaviour towards the desired outcomes. This seems to be the view in the Netherlands, that has known a long history of ‘dialogue-based’ relationships between government and institutions. Once such a dialogue becomes institutionalised, ‘something else’ will be required in order to change institutional behaviour. The Danish higher education institutions, that are also very much used to communicative modes of steering, still prefer to have letters of intent, although it has been suggested that the current system of institutional development plans would be (even) more effective if it was (directly) coupled to funding. On the other hand, there is the view that, when (serious amounts of) funds are attached to the agreements, the game will change and institutions may be less willing to cooperate. Countries that have agreements in order to establish a strategic dialogue and that try to align national and institutional agendas are more reluctant to link funding to agreements.

One issue of course is how much funding should be attached to performance agreements. Again, opinions differ widely. The feeling is that even small amounts can have a serious impact on institutional behaviour, while big amounts may have destructive impacts (or even bring the risk of bankruptcy for an institution). However, if amounts are small in relation to the efforts to be made by the institution, and the institution has an opportunity to acquire funds elsewhere, the impact on institutional behaviour is likely to be limited.

There is, however, consensus on the fact that annual budgetary fluctuations for institutions should be kept within reasonable bounds. Several countries have in-built cushions to limit the effects of performance-based funding and to maintain some financial stability for individual institutions.

### Existing or additional budgets?

If performance agreements are directly linked to funding then an intriguing question is to what extent they should bring additional funding to the institutions or whether the funding attached should be top-sliced from an already existing core budget. Opinions on this issue clearly differ. On the one hand there is the view that attaching additional funding to performance agreements creates a meaningful incentive for institutions to accept the agreements, perform well and to make an extra effort. Without the risk of losing funding, a bonus in return for ‘doing more’ or ‘doing better’ is likely to be met with less resistance from the institutions (although arguably when such a bonus is awarded on the basis of a particular benchmark some institutions will still feel neglected). Particularly, when performance agreements are a new steering device (an ‘experiment’ or pilot, which seems to be a rather common strategy) additional funding would seem to be more ideal. On the other hand, such an ideal is not always possible – public funds are scarce (e.g. because of the financial crisis or strong competition from other public domains). Making a proportion of existing funding conditional on goal achievement (‘top slicing’) is then a more realistic option. A lesson from some U.S. states, however, is that performance budgets driven by additional funding may become ‘easy targets’ for politicians that are looking to make cut-backs. In some American states the performance budgets were the first to be scrapped during economic recessions. And as a result of this, performance-based allocation failed in these circumstances; institutions became frustrated and conservative in agreeing or setting targets. Moreover, it is difficult to draw a clear line about what can reasonably be expected from institutions (and paid for from existing budgets) and what is an additional effort (for which extra funds should be

made available). Some argue for example that ‘high-quality teaching and research’ is what colleges and universities should be all about - and that is what they are publicly funded for.

## 11. Performance agreements: some food for thought

Based on the discussion in the sections above and the additional inputs from a workshop held in The Hague (see Appendix E, below) we now list some issues for further reflection on performance agreements:

- *The government needs to have a strategic agenda for the higher education system (vision)*
- *Institutions must be involved throughout the process and have to be committed (otherwise efforts must be made to increase commitment)*
- *Both government and institutions need technical and operational expertise as well as sufficient resources*
- *Contract partners must be trustworthy and reliable. Agreements can be changed during the process but not too often and only in mutual consent*
- *Not only focus on agreement of content but also on measurement and data infrastructure (indicator validity, sophisticated data collection, avoiding misinterpretation)*
- *Carefully consider how performance agreements are embedded within (and related to) other policy instruments and align performance agreements with other government steering tools*
- *Avoid strong annual fluctuations in institutional budgets*
- *As much as possible, try and keep performance agreements as simple, robust and transparent as possible*
- *The introduction of performance agreements should be carried out in a gradual way; learning by doing (‘experimenting’) seems to be the preferred strategy*
- *When performance agreements are new, measures and indicators should not be too new (experience and expertise will improve acceptance and working)*
- *Performance agreements are always dialogue-based and well-organised patterns of communication therefore are crucial. An independent agency can facilitate certain parts of the process*
- *Ideally, for the sake of stability and trustworthiness, performance agreements should be ‘political proof’ (limiting risks of a change in government)*
- *Outcomes of the performance agreements may be used to inform society and improve accountability in higher education*
  
- *Some important but unsolved issues, because they are dependent on aims and context, are:*
  - *The choice and balance between quantitative and qualitative targets*
  - *The impact of performance agreements without funding attached*
  - *The amount of funding to be attached to the agreements (will it change institutional behaviour?)*
  - *Tying performance agreements to already existing budgets or to additional budgets (the latter seems preferable but not always realistic or without risk)*
  - *Agreements to be specified in comprehensive and uniform contracts, or in less broad and more focused contracts (the latter seem preferable but may not fit every aim that performance agreements wish to achieve)*





# **PART TWO: COUNTRY STUDIES**

## Introduction to Part Two

This part of report contains descriptions of the ten higher education systems we studied. Information was collected from websites, official documents, academic literature, and expert interviews in each country, as well as through two conferences (one in The Hague and one in Palermo).

For each of the fourteen higher education systems included in this part we have included a text that is split broadly into the following sections (sometimes with subsections to provide further detail):

1. The system
2. The policy context
3. The funding model
4. Performance agreements
5. Experiences and effects

For each higher education system we briefly present some system characteristics, followed by the policy context in which performance-related funding instruments are embedded. The third section presents the key characteristics of the funding model, including information on performance-related elements. The content and the processes surrounding performance agreements are presented in a separate section: Performance agreements. The final section of each country chapter contain some reflections on the effects of and experiences with performance-based funding models – both the past and the present models and performance agreements in particular.

The Appendices to this report contain summary information as well as some web-links that lead to examples of performance contracts in place in the various countries.

## The Netherlands

### *The system*

The Netherlands has a binary higher education system, with two subsectors: the research universities (18 in total, including four denominational universities and an Open University) and 38 Universities of Applied Sciences (UAS; in Dutch: *hogescholen*). Both are publicly funded. One third of students (about 230,000) attend research universities and around two thirds (about 414,000 students, studying primarily for Bachelor level degrees) attend UAS. There are also independent private higher education institutions (about 69) that do not receive government funding and have relatively few students and conduct little research.

### *The policy context*

In terms of resources and research performance, the picture for Dutch higher education looks fairly good. Dutch universities perform quite well in terms of scientific quality (as indicated by citation impact rates and the number of grants received from prestigious funding agencies like the European Research Council or the European Framework Programme). However, given the ambitions of the Dutch government, concerns have been expressed about the quality of education, with dissatisfaction about completion rates and a relatively high dropout rate for students. Some of this is believed to be caused by a lack of differentiation – higher education institutions not differentiating sufficiently between the different types of students they cater for.

### *The funding model*

For a long time, the public funding of universities and *hogescholen* (i.e. universities of applied sciences, UAS) was primarily based on formula funding, with a mix of input funding (student numbers, historical allocations) and performance-based funding (PBF) elements (number of degrees at Bachelor's, Master's and PhD levels).

### *Performance agreements*

Since 2012, a small portion of funding for higher education institutions has been based on performance agreements. This reform replaced an earlier trial of contract funding, during which contracts were signed with the university sector (specifically the UAS sector as a whole). The experience with these collective agreements [2008-2011] at the sector level showed that they were not sufficiently aligned with the strategic targets of higher education institutions. For some institutions the national targets were unrealistic because they were too high, while for others they were too low and therefore not challenging. Agreements with (sub-)sectors as a whole did not have sufficient ownership from the higher education institutions.

The new form of contract funding came about partly as a result of recommendations by the Committee on the Future Sustainability of the Dutch Higher Education System. This was known as the Veerman committee and was established by the then education minister in 2009 and named after its chair.<sup>9</sup>

The Veerman report stated that, given the Dutch government's ambition to be amongst the most competitive knowledge economies, the Dutch HE-system was not future-proof. The drop-out rate was

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<sup>9</sup> Veerman Committee (2010), *Threefold Differentiation*, page 39.

too high, talent was not properly challenged and there was too little flexibility in the system to serve the various needs of students and the labour market. Its main recommendation was that a long term strategy is needed to improve the quality and diversity of Dutch higher education. This was to be realised by encouraging higher education institutions to strengthen their individual profile on the basis of their strengths in education and research, stimulating differentiation in the range of programmes offered (two-year Associate degrees, more Master's programmes to be offered by UAS) and giving more room for entrance selection of students. The committee also recommended a gradual reduction in the share of student-based funding in favour of mission-based funding. Relatively good performances that corresponded to the mission chosen by the institution were to be rewarded.

Mission-based funding was operationalised by means of a performance contract that requires research universities to make 'crystal clear agreements with the government regarding their performances in improving the education they provide' (Veerman et al., 2010, p. 40). A threefold differentiation was to be achieved, with differentiation in terms of structure (research universities versus universities of applied sciences), differentiation between institutions (a diverse set of institutional profiles), and differentiation in terms of educational offerings (encouraging students to make a more considered choice of degree programme; making it possible for higher education institutions to select students to study in their institutions and higher education institutions offering their own selection of degree programmes).

The Veerman report was largely accepted by the minister, the higher education institutions, students, employer organisations, and the Dutch parliament. The majority of its suggestions were included in the ministry's Strategic Agenda for Higher Education, Research and Science (titled Quality in Diversity), which was published in July 2011. This Strategic Agenda expressed the need to strengthen the strategic dialogue and revise the funding system. Performance agreements were to be made with the individual higher education institutions (both Universities of Applied Sciences (UAS) and research universities). A new component in the funding model was introduced, to encourage 'quality and profiling'. This was done in the belief that the focus of higher education institutions should be on improving quality instead of quantity (student numbers).

Quality and profiling – performance – of higher education institutions was to be financially rewarded. In the funding model, some 7% of educational funding was set aside for this component. Extra financial resources were made available for this Quality & Profiling budget. The legal basis for the performance agreements proved difficult, but it was agreed that the agreements were to be seen as an experiment, to be evaluated after the first round (2013-2016) before being included in law.

In December 2011, a general agreement was signed between the two university associations and the Ministry of Education. Universities and UAS pledged to sharpen their respective profiles and enter into contracts to work on improving the quality and performance in education (increase graduation rates, reduce dropout rates, invest in teaching intensity, raise teacher quality, offer honours education, reduce overheads), invest in differentiation of their educational offerings (level, contents, breadth, connection to strategic priorities in national innovation policy and the European grand challenges), sharpen their research profile (creating focus and mass in research), strengthen their international standing and the scientific and societal impact of research, and pay more attention to knowledge exchange (valorisation). The higher education institutions committed themselves to the system of performance agreements and performance based funding. The State Secretary for higher education

committed himself to creating the proper legal and financial conditions for the realisation of the ambitions in the performance agreements.

In May 2012, all higher education institutions submitted a proposal (a 'profile' document) for a four-year performance agreement (PA) with the ministry. The proposals listed the institution's individual ambitions for the years 2012-2015 in terms of improving educational achievement, strengthening their education and research profile, and increasing the impact and utilisation of academic and practice-oriented research.

The proposal for a performance agreement that each higher education institution was we invited to deliver did not have an obligatory format. The only conditions were that it should not exceed a maximum of 40 pages and institutions were obliged to formulate 2015 targets for seven indicators related to improved educational achievement.

The budget at stake is 7% of the annual teaching grant for 2013-2016. This consists of 5% for a conditional budget (conditional on the signing of the performance agreement, and continued after 2016 on the condition that the 2015 performance targets are achieved) and 2% for a selective budget (a competitive fund awarding more funding for the best proposals; 'best' in terms of – primarily – differentiation and concentration). The proposals did not just list quantitative and qualitative targets, but also contained the strategic foundations and concrete plans that explained the higher education institutions' activities for profiling and educational enhancement.

The set of seven indicators used by the higher education institutions covered teaching performance, excellence and dedicated actions.<sup>10</sup> The selection of these indicators was part of the general agreement signed earlier with the university associations. Most of these indicators were already in use. The indicators are: completion rate for Bachelor students, drop-out rate (after the first year of an institution's programmes), study switch in the first year, an excellence/quality indicator, teacher quality, educational intensity (i.e. number of face-to-face hours per week in the first year) and indirect costs (i.e. overheads).

To indicate excellence in education, there were two options. Firstly, an institution can use the 'participation of students in excellence routes' as an indicator. This can pertain to specific tracks ('routes') that have been recognised ('validated') in the context of a dedicated programme for which selected institution already had received development subsidies (the Sirius Programme) or to routes still to be developed by the institution. In the latter case, these routes should expressly be a part of the institution's proposal and an external validation of the programme would have to be sought from the SIRIUS programme in due time (no later than 2013). Secondly, an institution will be offered the possibility of choosing from two other indicators expressing education quality, i.e. the outcomes in terms of the institution's scores in the National Student Survey, or the accreditation agency's (i.e. the NVAO agency's) ratings of an institution's degree programmes.

In January 2012, an independent Review Committee was appointed to evaluate the proposals by the higher education institutions and advise the Minister for Education. Where there was a positive

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<sup>10</sup> On the website of the Review Committee the assessment framework and the indicator definitions are specified:  
[http://www.rcho.nl/media/www\\_rcho\\_nl/nl%20performagr%20assessment%20framework%202012.pdf](http://www.rcho.nl/media/www_rcho_nl/nl%20performagr%20assessment%20framework%202012.pdf)

evaluation of an institution's proposal, the minister would, in principle, be prepared to sign a performance agreement with the institution.

The Review Committee scored the proposals, making use of three criteria:

1. Ambition (the level of ambition, combined with reality check);
2. Alignment (the contribution of the proposals to inter/national policy objectives in terms of diversity and fit with the national and European innovation agenda); and
3. Feasibility (whether the proposals for differentiation and concentration are doable, i.e. combined with concrete plans).

For each of the three criteria the institution received a score on a five-point scale ranging from insufficient to excellent. Criterion 2 (alignment with national policy-agenda) received a double weight-factor in the aggregate evaluation score. The Review Committee evaluated ('scored') every proposal in the context/setting relevant for the institution in question (i.e. its history, regional setting and student population).

In November 2012, the committee's evaluations were submitted to the minister who then translated the evaluation scores into a performance budget. As discussed earlier, the institution's performance budget consisted of two parts: 5% conditional funding and 2% selective funding. Having a performance agreement was a precondition for institutions to get their share (based on student enrolments) of the 5% conditional funding over the period 2013-2016. The budget for selective funding (2%) was more competitive: institutions with more highly rated plans received a (relatively) larger part of this budget. To translate evaluation scores into a selective budget, multipliers ('factors') were used: overall evaluation scores representing 'good', 'very good' and 'excellent' proposals were translated into factors 2, 3 and 5 respectively. Institutions of a given size whose plans were evaluated as being 'excellent' received a budget 2.5 times higher than similar size institutions whose plans were rated 'good'.

Within the selective funding component, the outcomes were such that two thirds of the research universities received a higher budget than they would have received if the budget for quality and profile had been distributed in the regular way (i.e. along the lines of the existing funding model); one third got less. The research university with the biggest positive difference in this respect received € 3.5 million extra in 2013 (1.7% of the education funding for this university). The research university with the biggest negative difference received € 1.5 million less (0.8% of their education funding).

### *Experiences and effects*

Performance agreements were concluded with all publicly funded higher education institutions.<sup>11</sup> This implies that all institutional plans were of sufficient quality. The Review Committee also carries out annual monitoring of the progress made by the institutions in terms of their achievement of performance targets. The first monitoring report was published in 2013.<sup>12</sup> In 2014, the Review

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<sup>11</sup> One institution's proposal was initially evaluated as not being of sufficient quality. However, the education ministry granted it some additional time, making it possible to – later on - conclude an agreement and receive its share of the (5%) conditional funding.

<sup>12</sup> Review Committee (2014), *Stelselrapportage* 2013. Available at: <http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/rapporten/2014/01/30/stelselrapportage-2013-reviewcommissie-hoger-onderwijs-en-onderzoek/stelselrapportage-2013-reviewcommissie-hoger-onderwijs-en-onderzoek.pdf>

Committee undertook a mid-term review to establish whether the selective funding, awarded to each institution as part of the 2% selective budget, should continue for the remaining two years of the four-year period.

In 2016, the Review Committee will assess whether targets have been met. If some of the targets are not met, an institution stands to lose part of its conditional budget for the next four years. If an HEI does not meet its 2015 targets for the seven obligatory indicators for quality in education and study success, it will get a smaller share (or none) of the conditional funding for the years 2017-2020. Furthermore the Ministry of Education will evaluate the system of performance-based funding and agreements in terms of results, processes and the procedures followed.

The early experiences with performance agreements show that it is an innovative approach. The aims of the performance agreements are to improve student success and educational quality, strengthening the institutions' education and research profile, and increasing the impact and utilization of academic and practice-oriented research. While the largest share of an institution's budget still continues to be determined by a uniform formula (driven partly by performance indicators) a small share of their budget is awarded conditional on signing of an institution-specific performance agreement. This allows the education minister to allocate budgets on more qualitative terms and to differentiate between institutions. In its 2014 mid-term review, the Review Committee learned that the performance agreements were appreciated by most higher education institutions; they functioned as an agenda setting instrument – as an external driver to accomplish internal change.<sup>13</sup>

The agreements also provided a means for the ministry to put important issues on the agenda – in particular those mentioned in the Veerman report. While this provided steering opportunities for the ministry, the performance agreements partly proceed in a bottom-up fashion – with institutions themselves choosing their targeted indicator-based objectives – partly from a prescribed indicator list and partly based on their own choice of additional indicators and goals. This ensured that the higher education institutions felt a sense of ownership with their individual performance agreement. The agreements functioned as a kind of wake-up call for (at least some) higher education institutions that had for some time paid insufficient attention to the quality of their teaching (completion rates were believed to be relatively low). In this area, institutions experience important challenges. For instance: how to combine raising completion rates with ensuring a steady inflow of academically prepared new entrants. While there are some negative feelings about the bureaucracy surrounding the performance agreements (increased accountability requirements and 'yet another entity to deal with') most HEIs regard the agreements as a useful tool in helping them to focus on their individual strengths and seem to use the agreements to push forward internal reforms.

The future of the performance agreements is still a topic for debate. As a result of recent reforms in the student support system extra funds will become available for the higher education sector (now that most students will have to contribute more to the costs of their education). Parliament agreed to the reforms on the condition that the extra funds would be invested in further improving the quality

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<sup>13</sup> See the letter (in Dutch) that was sent by the Review Committee in November 2014 to the Minister of Education on the outcomes of the Mid-term review:  
[http://www.rcho.nl/media/www\\_rcho\\_nl/adviezen%20hs/adviezen%20hs%2014/rc%202014%2011%2003%20-%201042%20aanbiedingsbrief%20adviezen%20midtermreview.pdf](http://www.rcho.nl/media/www_rcho_nl/adviezen%20hs/adviezen%20hs%2014/rc%202014%2011%2003%20-%201042%20aanbiedingsbrief%20adviezen%20midtermreview.pdf)

of teaching and learning. The tool of Quality Agreements is being considered as a tool to implement this. The evaluation of the current performance agreements-system will be used in deciding on the design of the new Quality Agreements system.



## Australia

### *The system*

Australia's higher education system consists of 38 public universities, three private universities and a large number of other privately funded higher education providers. The universities are independent, self-governing organisations. The university title is only granted to institutions which undertake comprehensive teaching and research across at least three fields of education and provide research training at doctoral and post-doctoral level. Australian universities are generally comprehensive institutions offering a variety of programmes. There is provision for specialist universities with research in one field of study, but full universities must have research activities in at least three fields of study. Many universities are located in the major cities but a significant number are located in smaller regional centres. The larger universities usually have a number of campuses. Most of the universities are organised on the basis of faculties or schools but they may also have a number of specialised research centres or institutes.

Among the public universities there is a clear typology. The types of universities are institutionalised to some extent via specific university associations, but this is not a formal categorisation of universities recognised by government policies. This typology includes:

1. The Group of 8 (Go8) - a coalition of eight old research intensive universities;
2. Technical Universities - represented by the Australian Technology Network (ATN);
3. Other pre-1987 universities, most of which are represented by the coalition of Australian Innovative Research Universities;
4. Post-1987 universities, which for a while were represented by the umbrella "The New Generation Universities".

### *The policy context*

Since the 1990s the government (i.e. Commonwealth) has tried to stimulate universities to develop unique profiles, concentrating particularly on research. The Australian government has typically followed an approach of distant steering and avoids direct prescription of what the role and mission of each of the institutions should be. Institutions themselves have a responsibility to define and seek their unique profile, and the government is involved by observing whether universities are making any concentration and profiling plans<sup>14</sup>.

Australia's higher education sector has undergone several changes in the funding system, combined with funding injections to support research and innovation capacity in areas of national economic significance. The government's 2003 blueprint for reform "Our Universities: Backing Australia's Future" (Government of Australia, 2003) supported focusing on certain disciplines and adhering to national governance protocols. The shift towards a demand-driven funding model was in line with the 2008 *Review of Australian Higher Education*, known as the "Bradley review". In response to the Bradley Review, large-scale reform was implemented, supporting (amongst other things) teaching and learning, access and study success and introducing demand-driven funding. Over time there were

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<sup>14</sup> CHEPS (2011), Quality-related funding, performance agreements and profiling in higher education. An international comparative study. Final Report to the Dutch Ministry of Education, Culture and Science. Available from: <http://www.utwente.nl/mb/cheps/publications/Publications%202011/C11HV018%20Final%20Report%20Quality-related%20funding,%20performance%20agreements%20and%20profiling%20in%20HE.pdf>.

several reforms, which ultimately led to uncapping the number of government-supported student places in 2012 and (forthcoming in 2016) removing ceilings on student tuition fees.

One of the reforms worth mentioning in the context of this report concerns the introduction of the triennial mission-based compacts. These compacts, a quality and accountability requirement for the individual institution to receive public funds, aim to provide a strategic framework for the relationship between the government and each university.

The reforms in funding are amongst the most comprehensive and drastic in Australian higher education to date. It is hard to tell what the consequences will be. Critics such as Marginson<sup>15</sup> predict that the system may become socially regressive and, in the longer term, “more firmly reproductive of an unequal social order”, which he summarises as “Americanisation, without American wealth.”

### The funding model

The main source of public funding for HEIs is the Commonwealth Grant Scheme (CGS). The CGS finances tuition subsidies that are paid to higher education providers on behalf of students. These are known as “Commonwealth Supported Places” (CSPs) and are expressed in full-time equivalents<sup>1617</sup>. As of 2014 the amount varies across eight fields of education. Students in CSPs are charged a “student contribution” (a tuition fee), set by the provider up to a legislated maximum. However, the maximum student contribution will soon (2016) be abolished. At the same time the government subsidy paid for a CSP will be reduced substantially (20% on average).

In a funding agreement<sup>18</sup>, the Minister for Education and each HEI specify the number of CSPs for the next three-year period. Using funding agreements the government can set a maximum total payment for student places by institution, as long as the maximum is not lower than what the HEI received in the previous year. The government can also determine that some types of course are “designated”, which means that the total number of places for each institution is determined through funding agreements. Non-research postgraduate courses, medicine courses, enabling courses and courses of study leading to a diploma, advanced diploma or associate degrees are “designated”. Funding agreements are also used to allocate CSPs to postgraduate courses.

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<sup>15</sup> Marginson, S. (2014). Higher education: The age of Pyne the destroyer begins. Available from: <http://www.universityworldnews.com/article.php?story=20140523070424963>.

<sup>16</sup> For example, two part-time Commonwealth supported students at 50% each occupy one Commonwealth supported place.

<sup>17</sup> Kemp, D. and Norton, A. (2014). Review of the Demand Driven Funding System. Canberra. At: <https://blogs.deakin.edu.au/innovation-in-psychology/wp-content/uploads/sites/24/2014/06/ReviewOfDemandDrivenFunding.pdf>.

<sup>18</sup> Available at: <http://docs.education.gov.au/node/34675>.

## Research funding

Over four years, the Australian Government will invest \$11 billion (approximately €7.5 billion)<sup>19</sup> in research in Australian universities. According to current government statements<sup>20</sup>:

- A\$139.5 million over four years for the Future Fellowships Scheme, awarding 100 four-year fellowships each year from 2015 through the Australian Research Council (ARC). Future fellowships fund mid-career researchers to ensure Australia has internationally competitive research, now and in the future
- A\$150 million in 2015-16 to continue the National Collaborative Research Infrastructure Strategy, to ensure that the nation secures the benefits of the A\$2.5 billion investment in state-of-the-art research infrastructure since the Strategy was created by the Howard Government in 2004.
- A\$3.3 million for an extension of the Australian Institute of Aboriginal and Torres Strait Islander Studies programme to preserve important Indigenous cultural items in digital form.

Moreover, this budget is intended to implement the Government's commitment to directing resources towards a number of key research priorities, including:

- A\$200 million to accelerate research into dementia, including A\$26 million through the ARC.
- A\$42 million through the ARC to expand the Australian Institute of Tropical Health and Medicine at James Cook University for research into tropical diseases such as dengue fever.
- A\$24 million through the ARC to support the Antarctic Gateway Partnership as part of the strategy to enshrine Tasmania's position at the centre of Antarctic research.

## Performance agreements (compacts)

Entering into a performance contract – a *compact* – is one of the quality and accountability requirements that a university must meet as a condition for receiving a grant (compacts apply to all universities in Australia). Compacts are three-year agreements between the Commonwealth and universities that support them in pursuing their distinctive missions while contributing to the Australian government's objectives for higher education. The 2011–13 compacts are the first three-year agreements generated under the initiative and have been followed by a new set of compacts for the period 2014–2016. Forty-one compacts have been negotiated with Australian universities for both these periods. From the university perspective an explicit and more stable funding basis was required to support a widening range of missions. The previous funding regime had driven an increasing level of uniformity.

Compacts bring together in a single document key activities and targets in the areas of innovation, research, teaching and learning. They present a comprehensive picture of the institution and include, *inter alia*, information on (a) the university's mission, (b) government and university priorities for teaching and learning, and research and innovation, (c) the university's strategies for achieving the mission and contributing to government priorities, and (d) details of government funding provided through government programmes<sup>21</sup>.

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<sup>19</sup> 1 AUD = 0,68 EUR

<sup>20</sup> See: <https://education.gov.au/investing-research-excellence>

<sup>21</sup> The list of the universities' 2014-16 Mission-based Compacts are available online at: <http://docs.education.gov.au/node/34873>

Performance funding involves setting performance targets for universities, assessing performance and providing reward funding to universities that meet targets. At its inception, it consisted of two components<sup>22</sup>:

- 1) “Facilitation Funding” tied to the compact: a formula-driven share of the available funding, payable for each year of the compact.
- 2) “Reward Funding”: to reward Table A<sup>23</sup> universities meeting performance targets in two areas:
  - i. The participation of students from low socio-economic status (SES) and other underrepresented groups (2012 budget: A\$27,590,462);
  - ii. Quality initiatives to ensure that the growth in university enrolments is underpinned by a focus on quality (2012 budget: A\$4,859,000).

The core objectives of the compacts are to enable greater diversity within the sector (in relation to the balance between and approach within teaching, research, engagement, research training and innovation) and to drive the Government’s agenda in relation to increased participation (both higher proportions of the 25-35 age cohort with tertiary qualifications and higher levels of participation by low socio-economic status groups), greater collaboration and increased research quality.

The following table lists the mandatory indicators set out in the 2014–2016 compacts.

Table 1: Performance indicators and targets by Compact section

Area of Compact	Compulsory Indicators
Aboriginal and Torres Strait Islander access and outcomes	Number of all Aboriginal and Torres Strait Islander student enrolments
	Number of all Aboriginal and Torres Strait Islander student completions
	Number of all Aboriginal and Torres Strait Islander professional/general staff
	Number of all Aboriginal and Torres Strait Islander academic staff
Innovation <sup>24</sup>	Number of patent and plant breeder’s rights families filed, issued and held
	Number of all active licences, options or assignments (LOAs) executed and income derived
	Number and value of research contracts and consultancies executed
	Investment in spin-out companies during the reporting year and nominal value of equity in spin-outs based on last external funding/liquidity event or entry cost
	Income
Engagement	Number of active collaborations with industry and other partners in Australia
	Number of active collaborations with industry and other partners overseas
	Income

<sup>22</sup> CHEPS (2011), Quality-related funding, performance agreements and profiling in higher education: An international comparative study. Final Report to the Dutch Ministry of Education, Culture and Science. Available from:

<http://www.utwente.nl/mb/cheps/publications/Publications%202011/C11HV018%20Final%20Report%20Quality-related%20funding,%20performance%20agreements%20and%20profiling%20in%20HE.pdf>.

Australian Government—Department of Education (2014). Portfolio Budget Statements 2014–15. At:

[http://docs.education.gov.au/system/files/doc/other/2014-15\\_education\\_pbs\\_00\\_full.pdf](http://docs.education.gov.au/system/files/doc/other/2014-15_education_pbs_00_full.pdf).

<sup>23</sup> A “Table A provider” is a body that is listed in Table A in section 16-15 of the Higher Education Support Act 2003 and has not had its approval as a higher education provider revoked or suspended.

<sup>24</sup> Except for income, this set of performance information does not require targets. Universities will be asked to report their baseline performance and will report on their future performance in the context of the Institutional Performance Portfolio Information Collection commencing in 2013.

Area of Compact	Compulsory Indicators
Teaching and learning: enrolments and quality	Number of active learning and teaching projects supported by the PELTHE <sup>25</sup> program where the University is the lead institution
	Number of active learning and teaching projects supported by the PELTHE program where the University is the partner institution
	Number of citations for outstanding contributions to student learning
	Number of awards for teaching excellence
	Number of awards for programs that enhance excellence
Teaching and learning: Equity and social inclusion	Proportion of domestic undergraduates who are from a low SES background <sup>26</sup>
	Proportion of domestic undergraduates who are from another underrepresented group <sup>27</sup>
Research performance	Number of disciplines, as defined by two-digit Fields of Research (FoR) <sup>28</sup> , performing at world standard or above (3, 4 or 5) <sup>29</sup>
	Number of disciplines, as defined by four-digit FoR, performing at world standards or above (3, 4 or 5)
	Category 1 income <sup>30</sup>
	Category 2 income <sup>31</sup>
	Number of joint research grants in Australia
	Number of joint research grants overseas
	Number of jointly supervised PhD students in Australia
	Number of jointly supervised PhD students overseas
Research training	HDR <sup>32</sup> student load
	HDR student completions by master's
	HDR student completions by doctorates

Mission-based compacts have a fixed format. They are documents of about 40 to 50 pages, consisting of six parts. Parts 2–5 include the indicators listed in the table above.<sup>33</sup>

<sup>25</sup> The Australian Government has committed AU\$57.1m in programme funding over four years towards the Promotion of Excellence in Learning and Teaching in Higher Education (PELTHE). The PELTHE programme consists of a suite of grants, fellowships, awards and networks and is managed by the Office for Learning and Teaching. See: <http://www.olt.gov.au/system/files/2015%20%2526D%20Grants%20Programme%20Application%20Instructions%20v4.pdf>, p. 205.

<sup>26</sup> This is divided into excellence target, improvement target and outcome.

<sup>27</sup> This is divided into excellence target, improvement target and outcome.

<sup>28</sup> ERA data were collected from all institutions and evaluated in eight multidisciplinary clusters using the two and four-digit Fields of Research (FoR) codes. Two-digit code FoRs include, for example, Sciences, Engineering, Education, Economics, Studies in Human Society, Law and Legal Studies, Studies in Creative Arts and Writing, Communication, etc.

<sup>29</sup> Results for each unit of evaluation (UoE), i.e. a discipline represented by a two or a four-digit FoR code at a university, are expressed in a six-point rating scale (including n.a.), based on the ERA suite of indicators used for evaluation. Results can be: (5) the UoE profile is characterised by evidence of outstanding performance well above world standard; (4) the UoE profile is characterised by evidence of performance above world standard; (3) the UoE profile is characterised by evidence of average performance at world standard; (2) the UoE profile is characterised by evidence of performance below world standard; (1) the UoE profile is characterised by evidence of performance well below world standard; and (n/a) not assessed due to low volume. The number of research outputs did not meet the volume threshold standard for evaluation in ERA. See: Excellence in Research for Australia, 2010 Evaluation Guidelines, p. 27, at [http://www.arc.gov.au/pdf/ERA2010\\_eval\\_guide.pdf](http://www.arc.gov.au/pdf/ERA2010_eval_guide.pdf),

<sup>30</sup> Higher Education Research Data Collection (HERDC) Category 1 income refers to income received from programmes listed on the Australian Competitive Grants Register. The HERDC Category 1 grants are highly competitive and have a strong element of peer review. See [http://www.arc.gov.au/era/era\\_2010/pdf/ERA\\_s3.pdf](http://www.arc.gov.au/era/era_2010/pdf/ERA_s3.pdf).

<sup>31</sup> Higher Education Research Data Collection (HERDC) Category 2 income refers to any other research income received from the Australian Government that is not eligible for inclusion as HERDC Category 1 research income. This includes income from both state and local governments. See [http://www.arc.gov.au/era/era\\_2010/pdf/ERA\\_s3.pdf](http://www.arc.gov.au/era/era_2010/pdf/ERA_s3.pdf), p. 206.

<sup>32</sup> Higher Degree by Research.

*Part One* covers the Commonwealth's focus for the Compact and a description of the University's Mission Statement and Strategic Priorities. *Part Two* covers matters related to improving access and outcomes for Aboriginal and Torres Strait Islander people. *Part Three* covers matters related to innovation, industry and skills and engagement. *Part Four* covers matters related to teaching and learning including student enrolments, quality, equity and infrastructure. *Part Five* covers matters related to research and research training including research performance and research capability. *Part Six* covers general provisions of the compact including compact review, privacy, confidentiality and information sharing, changing the compact and notices.

The format and content of the compacts have remained fairly consistent across the two rounds (2011-2013 and 2014-2016). The main difference was that in the second round a specific section covering indicators relating to participation of Aboriginal and Torres Strait Islander people was introduced. In the first compact framework universities had to nominate one underrepresented group amongst domestic undergraduate students to set performance targets for. This could be (a) people from regional or remote areas, (b) Aboriginal and Torres Strait Islanders, (c) people with a disability, or (d) people from a non-English-speaking background. In the 2014–2016 compacts the Commonwealth has set an aspirational national parity target for Aboriginal and Torres Strait Islander students and staff in higher education. The parity target equates to the proportion of the population aged between 15 and 64 years which is currently 2.3%.

### ***Experiences and effects***

As compacts have a three-year term and the new ones have just been agreed for the period 2014–2016, it is premature to speculate on the opening of a next round in 2017. However, the debate about their impact and future is rife. As mentioned earlier in the report, compacts are part of a comprehensive reform agenda of Australia's higher education. But there is an increasing sense that they amount to a bureaucratic burden, with few positive effects on institutional behaviour. Several university representatives have cast doubts on the need for compacts in the future, claiming, for example, that they risk becoming a way for universities, "[...] doing deals with the government rather than just doing their stuff according to clear rules"; Compacts might also have the "potential to be used for any negotiated "soft capping" of student numbers"<sup>34</sup> (a sort of "unofficial repeal" of the recent uncapping policy).

The individual compacts include the specification of indicators for the areas of performance set out in the agreement. The universities are required to report annually to DIISRTE on performance on these indicators. Performance will be more comprehensively assessed when a new three-year agreement is negotiated. The compacts require each university to specify the indicators that are relevant to the objectives it sets for itself. However, in the case of some performance dimensions DIISRTE specify essential indicators, including participation by disadvantaged groups. The compacts will be required to use the indicators developed through the University Experience Survey<sup>35</sup>.

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<sup>33</sup> For each area there are also optional criteria which institutions can agree with the ministry.

<sup>34</sup> See: <http://www.theaustralian.com.au/higher-education/unis-wary-of-carr-compacts/story-e6frgcjx-1227129949269?nk=dcd2e43fb1362873c928562c5870ca9a>

<sup>35</sup> The University Experience Survey (UES) is part of a suite of performance measurement instruments to improve transparency in university performance. Other initiatives are an Australian version of the Collegiate Learning Assessment and a strengthened Australian Graduate Survey. The UES was developed by The Department of Education, Employment and Workplace Relations (DEEWR) in consortium with the Australian Council for

Universities' performance is monitored by the Commonwealth Institutional Performance Portfolio. The universities have to agree to contribute to the annual Institutional Performance Portfolio Information Collection (IPPIC). The Commonwealth will consult the higher education sector on the information collection requirements and any issues arising from the IPPIC process.

## Austria

### *The system*

There are three types of institution within the Austrian higher education system: *universities* (including medical universities and art and music universities), *universities of applied science (Fachhochschulen)*, and *university colleges of teacher education (Pädagogische Hochschulen)*. The three types of institution are governed by different bodies and rely on different regulations. They can be established as public as well as private bodies. These differences will be presented in the short overview below.

### *Universities*

In the winter term 2013/2014 around 298,527 students were enrolled at the 22 Austrian public universities. Since 2004, following the implementation of the university act *Universitätsgesetz (UG 2002)*, universities have full legal autonomy but fall under the supervision of the Federal Ministry of Higher Education<sup>36</sup>, as they are governed by public law. In addition, each university has a supervisory body, the so-called *Universitätsrat* that controls the activities of the universities. Public universities can autonomously decide to implement new or close old study programmes and are obliged to establish an institutional quality management system. Under the law on quality assurance implemented in 2012 (*Hochschul-Qualitätssicherungsgesetz*), universities have to take part in regular audits, which check their institutional quality management system.

The establishment of private universities has been permitted since 1999. To become recognised as a private university, applicants have to pass a strict accreditation procedure organised by the national accreditation agency. There are currently about 12 private universities in Austria. A new law was enacted in 2012, which regulates the activities of the private universities (*PUG 2012*). In the winter term 2013/2014 8,086 students were enrolled at private universities.

### *Universities of Applied Sciences (Fachhochschulen)*

Universities of applied sciences are relatively new in the Austrian higher education system - they were introduced in 1994. *Fachhochschulen* have a special legal status. They are not public institutions but can be owned by a federal institution, a public entity or a private organisation, the so-called 'Erhalter'. As the 'Erhalter' can have different legal forms (e.g. a private entity, a foundation or a public body) universities of applied science's internal governance structures differ. Only accredited universities of applied science are allowed to enroll students. The national agency for quality assurance (*Agentur für Qualitätssicherung und Akkreditierung Austria*) has accredited universities of applied sciences since 2012. In the winter term 2013/2014 about 43,593 students were enrolled at 21 universities of applied sciences.

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<sup>36</sup> In recent years the name of the ministry that is responsible for higher education has changed several times. Currently the ministry for higher education is part of the Ministry for Higher Education, Research and Economy (BMWFV).



### *University Colleges of Teacher Education (Pädagogische Hochschulen)*

University Colleges of Teacher Education (*Pädagogische Hochschulen*) were created in 2007 and replaced the former *Pädagogische Akademien*. These colleges offer teacher training for most of the educational tracks in primary and secondary education, including special education for disabled people. Teacher training for educational tracks in the gymnasium is only offered by universities. The law on the organisation of colleges of education (*Gesetz zur Organisation der Pädagogischen Hochschulen*) regulates their activities and is applicable to public and private colleges of education. Private colleges of education need to be state recognised and are under the supervision of the responsible minister (mostly the minister for higher education). There is also an external council for quality assurance.

There are currently nine public and eight private university colleges of teacher education in Austria, with a total of 15.393 students in the winter term 2013/2014 (public colleges: 10.208 students; private colleges: 5.185 students).

The remainder of this chapter primarily focuses on the Austrian universities.

### *The policy context*

The system has undergone several changes in the last decade, as a result of constant changes in the political landscape as well as to the implementation of the University Act 2002. This act marked a turning point in Austrian higher education: universities received full legal autonomy under public law, university autonomy was enhanced with regard to financial, organisational and personal affairs. The funding model was also completely changed, bringing in elements of performance based funding. Since then, the funding model has been altered several times (see below).

The internal governance of universities has also been modified: there are now university councils which act as governing boards and the position of the rector has been strengthened. Originally, the university act aimed to strengthen the autonomy of the universities and to diversify the higher education system. It was also intended to increase efficiency using the profiling of institutions and steering by performance contracts to avoid the duplication of small/special research and teaching areas.

The ambitious University Act 2002 demanded drastic changes from universities. They were forced to professionalise their administration and steering structures, implement a quality management system and build up a distinct research and teaching profile. Since its implementation in 2004 there have been adjustments to the law, many of them related to university funding.<sup>37</sup>

It turned out that 'full' university autonomy made it difficult for the ministry to steer the sector as a whole. The assumption that some kind of self-regulation would take place, which in turn would lead to a diversified set of universities with distinct profiles, has not fully become a reality. An inter-university communication and cooperation structure has not really evolved. To better align national goals and institutional actions and allow some governmental steering, new communication structures have been established through the national development plan for higher education (*Nationaler Hochschulplan*)

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<sup>37</sup> The majority of adjustments were related to the funding of universities; these will be described in more detail in the sections below.

and the Austrian conference for higher education (*Österreichische Hochschulkonferenz*).<sup>38</sup> With the national development plan the ministry, in cooperation with stakeholders and universities, set goals for the further development of the higher education system. The current national development plan for higher education addresses topics such as the research infrastructure and a new model for funding teaching at universities (study place funding - see sections below). The Austrian conference for higher education serves as an instrument to improve communication between stakeholders in higher education and higher education institutions. Within the conference, thematic working groups formulate recommendations that serve as an input for the national development plan for higher education and also as guiding recommendations for higher education institutions, in particular with regard to their development plans and performance agreements.

Another longstanding key policy issue is the regulation of access and tuition fees. Austria has an increasing number of students: between 2005/06 and 2012/13 the number of university students increased by 37%. This has caused severe problems as university budgets have not increased at the same rate. Opinions on whether to restrict or widen access continue to differ. So far, those who favour open access have the upper hand.

Like the debate on access there is much controversy on charging tuition fees. A decision by the constitutional court in 2013 put an end to the discussion, at least for the moment.<sup>39</sup> Currently, universities are allowed to charge a so-called *Studienbeitrag* of €363 per semester, but this only applies to so-called non-regular students (*Außerordentliche Studierende*), students from non-EEA countries and students exceeding the maximum length of study. What amounted to the abolishment of tuition fees has led to a finance gap for the universities, because since 2008 universities have received ministry funding that replaces the previous tuition fees and is calculated based on student numbers in 2008/2009.

### ***The funding model for universities***

The legal basis for the funding of Austrian universities is the University Act 2002 (sections 12 and 13). The new funding model was implemented in 2007. Between 2007 and 2012 universities were funded by a global budget that consisted of a basic budget and a formula budget. Currently, they receive a global budget that consists of a basic budget and the so-called *Hochschulraum-Strukturmittel*, which replaces the former formula budget. The law also stipulates that universities will be funded at the Federal level; the Ministry of Higher Education and the Ministry of Finance decide the amount of funding for universities, which needs to be in line with the regulations in the *Bundeshaushaltsgesetz*. The ministries also jointly decide the percentage of the total spending for universities to be spent on the basic budget and the *Hochschulraum-Strukturmittel*.

### ***Hochschulraum-Strukturmittel***

For the funding period 2013–2015, the budget allocated to the universities consists of a basic budget that is still based on the performance contracts (see below) and the *Hochschulraum-Strukturmittel*. This new funding instrument was implemented to replace the more complex and untransparent formula-based budget and to prepare for the potential implementation of a study place financed

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<sup>38</sup> Detailed information can be retrieved from [www.hochschulplan.at](http://www.hochschulplan.at)

<sup>39</sup> For the full history of decisions around charging tuition fees at universities in Austria, see: <http://www.studium.at/265904-studiengebuehren-chronologie-der-einfuehrung-2000-bis-zum-aktuellen-vfgh-urteil>

funding system after 2014.<sup>40</sup> Another aim of the *Hochschulraum-Strukturmittel* is to respond to the increase in student numbers and allow sufficient funding of teaching and learning at Austrian universities.

For the funding period 2013–2015, about 450 billion Euros have been distributed to the Austrian universities. For this funding period the criteria for calculating the basic budget have not been changed (see below). The budget for the *Hochschulraum Strukturmittel* is calculated based on five indicators (see also *Hochschulraum-Strukturmittel Verordnung 2010*). These indicators are:

1. Number of enrolled and active students (60% of the budget of the *Hochschulraum-Strukturmittel*). Active students are those students that achieve at least 16 ECTS in the study year under review and spent at least 8 hours per week on their study. The number of active students is weighted by discipline and study programmes are assigned to one of seven groups of disciplines.
2. Number of graduates (10% of the *Hochschulraum-Strukturmittel*). Graduates are also weighted by discipline for this indicator.
3. Revenue from Knowledge Transfer (14% of the *Hochschulraum-Strukturmittel*). Referring to the revenues that were spent by one of the following institutions/organisations:
  - European Union;
  - Austrian federal states (including foundations and institutions of the states);
  - Municipalities and associations of municipalities;
  - Local authorities (excluding Vienna);
  - Austrian Science Fund (FWF);
  - Anniversary fund of the Austrian National Bank;
  - Private funds by foundations etc.
4. Revenue from private donations (2% of the *Hochschulraum-Strukturmittel*).
5. Funding of Cooperation: (14 % of the *Hochschulraum-Strukturmittel*). With this indicator the ministry funds projects that intend to increase universities' cooperation activities (internally and externally with partners from industry, *Fachhochschulen* and other partners). These funds are competitively allocated: universities had to apply for the money to fund up to one third of the costs of projects that had been implemented to strengthen collaboration/cooperation in teaching, research, advancement and appreciation of the arts, and administration. Those projects that contribute to the establishment of excellent structures (Clusters and Schools) were particularly likely to be funded.

### ***Funding of the universities of applied sciences (Fachhochschulen)***

The federal level funds the universities of applied sciences through a so-called norm cost model. This means that the federal level contributes to the operating and personnel costs of the universities of applied science. Funds for infrastructure, buildings and so on have to be provided by the *Erhalter* of the university of applied science (BM:BWK 2004, p. 17ff).

The costs are calculated based on a detailed analysis per study place. The Ministry of Higher Education funds 90% of the costs per study place. In 2012, these costs were about €7,940 for a place in a technical study programme and about €6,510 for a place in an economics or business administration

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<sup>40</sup> The study place based funding system has not been implemented yet.

study programme (BMWf, 2010, p. 11). These funds are based on the number of enrolled students, funds are not provided to cover fixed costs. According to the regulations in the *Fachhochschulstudiengesetz* the universities of applied science can also charge their students tuition fees (*Studienbeitrag*) of €363 per semester.

In addition to funds from the ministry and tuition fees, the *Fachhochschulen* are funded by local authorities, federal states, companies, and so on (Wissenschaftsrat, 2012, p. 37). The public bodies mostly use other funding models, for example global budget models and additional money to fund research at universities of applied sciences. The amount that is spent by the federal states and the local authorities depends on the study programmes offered by the UAS and also the location of the UAS (East-West differences – in particular in Vienna only a little money is provided by the federal level). UAS that concentrate on technical study programmes receive up to 50% of their total budget from these funders. For UAS concentrating on study programmes in economics and business administration (or other social science oriented study programmes) the percentage of the budget coming from the federal ministry is higher (Wissenschaftsrat, 2012, p. 37ff).

The funding model for the universities of applied sciences has been the same for some time. While the number of funded study places increased between 1994 and 2009, the current plan for the universities of applied sciences foresees a stagnation in numbers (see BMWf, 2010, p. 6). Rather than an increase in numbers, shifts in the kind of study places funded are planned.

In 2010, the *Rechnungshof* criticised the tariffs paid per study place. For some regions and some disciplines the tariffs did not cover the real costs (Rechnungshof 2010, p. 149ff). The deficit was strongest in the technical study programmes, with only 40–80% of the real cost per study place covered by the ministry tariffs. The *Rechnungshof* recommended that the ministry update the databases used for the calculation of the norm costs.

### **Performance agreements (*Leistungsvereinbarungen*)**

The basic budget for universities is based on a performance agreement (*Leistungsvereinbarung*) between the federal level (represented by the Ministry of Higher Education) and the individual universities. The performance agreement is a public contract that stipulates the activities of universities and the federal level and runs for a period of three years, the so-called *Leistungsvereinbarungsperiode* (funding period). The first funding period was from 2007 to 2009, the second from 2010 to 2012 and the current period started at the beginning of 2013. The negotiations between the universities and the ministry (as representative of the federal level) start a year in advance.

Since 2007 the Ministry has developed a number of routines and guidelines to facilitate the process (see *Rechnungshof* 2012). The performance agreements build one element in a chain of steering instruments (*Rechnungshof* 2012, p. 249ff). The starting point of this chain is the national development plan for higher education, which informs the universities' development plans. The performance agreements are based on these development plans as well as on the regulations in the university act. The performance agreements also form the basis for the internal target agreements within the universities.

In practice, the negotiation process leading to the performance agreements is initiated and controlled by the Ministry of Higher Education.<sup>41</sup> Based on the national development plan for higher education the university rectors receive a letter (*Rektorenbrief*) asking for a first draft of the performance agreements. This letter indicates the general strategic goals for the upcoming funding period and specific goals for the individual university. In addition, at the beginning of the previous funding period, the ministry will have already specified further instruments to facilitate the negotiations about the performance agreements. Among these are the establishment of a special task force at the ministry that is responsible for the negotiations with the universities and the development of a simplified scheme allowing for comparisons of universities' performance agreements with their development plans. Finally, there is the establishment of an internal paper for the ministry, the so-called expectation paper (*Erwartungspapier*) that includes different goals for the universities. At the beginning of the first funding period (2007–2009) universities were provided with a template of a performance agreement and guidelines on how to write a performance agreement.<sup>42</sup> Experts have noted that over the years the ministry and the universities have become more professionalised with regard to the negotiation process and that different routines around the negotiation processes have become institutionalised.

According to the current version of the university act the universities have to address the following issues in their performance agreements (cf. sec. 13 university act):

- Strategic goals, profiling, further development of the university and its human resources;
- Research, advancement and appreciation of the arts;
- Teaching and (further/postgraduate) training;
- Policies to reduce drop outs among students;
- Improvement of student/staff ratio;
- Part-time studies, special offers for working students;
- Societal needs (knowledge transfer);
- Strengthening of international orientation and mobility of staff and students;
- Cooperation with other universities;
- Definition of indicators that allow to measure the achievement of the performance agreement.

For medical universities and veterinary medicine special regulations have been established. These universities have to agree that they will be able to provide a determined number of study places for first-year students. For some universities offering study programmes in psychology, a maximum number of study places are prescribed in the university act. Special regulations are also stipulated for study programmes in teacher training that are established at universities; here universities have to prove that newly established study programmes have been rated positively by the '*Qualitätssicherungsrat für Pädagoginnen- und Pädagogenbildung*'.<sup>43</sup>

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<sup>41</sup> Nonetheless the university act states that universities have to hand in a new draft of the performance agreement at the beginning of the third year of the funding period, by April 30<sup>th</sup> at the latest.

<sup>42</sup> This so-called '*Arbeitsbehelf*' was also provided for the funding period 2013-2015 by the Ministry of Higher Education in 2012.

<sup>43</sup> Council for quality assurance in the training of pedagogics.

Besides outlining the university's plans, the performance agreement also contains regulations on the obligations of the ministry: the amount of the basic budget allocated to the university and the criteria that have been used for determining the funding. Further, the agreement gives a timetable for the planning of goal achievements. The goals are operationalised in more detail. Besides the indication of the total basic budget for the three-year funding period, the agreement specifies how much money has been allocated for individual years in the funding period. Finally, within the performance agreement the ministry and the universities agree on different measures for controlling the spending of the university, goal achievement and measures to be applied if the university does not achieve the stated goals. Here the performance agreements distinguish between foreseeable non-achievements and unforeseeable non-achievements. For foreseeable non-achievements universities have to adjust their planning and structures and have to reserve funds that had been dedicated to the non-achieved goals. For unforeseeable non-achievements, universities have to analyse the reasons for the non-achievements and report on the outcomes. Adjustments of the performance agreements also take place.

When the ministry and a university cannot agree upon a performance agreement the law specifies that a commission (*Schlichtungskommission*) will decide about the performance agreement and inform both parties about its decision by an official notification. The law also includes the possibility of changing the performance agreement if basic parameters or conditions change.

To control the realisation of the performance agreements different instruments have been implemented. Universities have to report on their spending in the so-called *Wissensbilanz* ('knowledge scoreboard'), which is prescribed in detail in the university act (section 13). In the knowledge scoreboard the universities have to report on their performance for a number of indicators and on the goals stated in the performance agreement.

The universities and the ministry are in close contact on the implementation of the performance contracts. Every six months the ministry and the individual university meet to discuss the performance agreement's progress. Within these discussions the ministry might also inform the universities about potential upcoming budget cuts and can give recommendations to the universities (*Rechnungshof* 2012, p. 260).

The performance agreements are used to calculate the basic budget. Therefore the performance agreements are evaluated by the ministry according to the criteria below (sec. 13, 4 University Act 2002):

- Needs;
- Demands;
- Performance;
- Societal needs/social goals.

Within the performance agreements these criteria are further defined in line with sections 2 and 3 of the University Act. Within these two sections the mission statement and the tasks of universities are defined. When calculating the basic budget for universities, the simplified scheme referred to above allows the ministry to make comparisons between universities.

## *Effects and experiences*

### *Adjustments of the funding model between 2007 and 2012*

By implementing the funding model in 2007, the ministry wanted to stimulate the profiling and diversification of the Austrian university sector. In the first two funding periods, running between 2007 and 2012, the universities' global budget included a basic budget based on performance agreements as described above and a formula-based budget that was calculated by the ministry based on a number of indicators. While the basic budget is intended to guarantee funding for day-to-day university operations, the formula-based budget is intended to steer the profiling of institutions by setting competitive incentives. About 20% of the total budget for universities was dedicated to formula-based funding, which was competitively distributed among universities.

To calculate the formula based budget about 11 indicators covering teaching, research and societal needs/social goals were used (Universitätsbericht 2008, p. 42, see annex of this chapter). The data underlying these indicators were collected by both the universities themselves and the Ministry of Higher Education. These indicators fed into a formula that tried to address different problems that were related, for example, to the heterogeneous institutional landscape and the diverse profiles of the universities (e.g. the art and music universities, comprehensive research universities or specialised universities). The calculation of the formula-based budget consisted of several complex steps (a detailed description of the calculation is provided by Unger et. al. 2011, p. 18 ff).

In 2011 the formula-based budget was evaluated (Unger et. al., 2011) for its ongoing feasibility and effects. With regard to the feasibility of the formula-based budget, the evaluation revealed that the underlying calculations were not transparent. Most representatives of university management said that they had limited understanding of the funding formula. It was therefore not possible for them to estimate the amount of funding they would receive based on their performance. Further, the selection of indicators was criticised. As the indicators represented input as well as output indicators, the intended direction of steering was not clear to the universities. For example, it was not clear whether the formula-based budget intended to strengthen the positive characteristics of the universities or to incentivise universities to invest in their short comings. The selection of indicators was also criticised for its broad scope and for using intransparent data sources. The indicators were not adequate for all kinds of universities, in particular for the art and music universities. The evaluation was also critical about the different aspects that were considered in the formula. Among these a so-called size-effect (*Größenfaktor*<sup>44</sup>) caused major problems as it was to some extent marginalising the effect of performance indicators. This led to a situation where improved performance was not rewarded fairly.

The evaluation report stated that the formula-based budget did not have a strong impact on the universities' global budgets (Unger et. al. 2011, p. 134ff). The competitive component of the formula-based budget had little effect, as it only changed the universities' global budgets very slightly. Though the evaluation revealed that overall universities were improving (based on indicators in the formula-based funding model), the funding model was not identified as the main factor steering universities to improve their performance. The universities claimed that they themselves had an interest in increasing their performance, independently from the funding formula. In addition there were other

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<sup>44</sup> With the „Größenfaktor“ financial obligations (like rents or costs related to investments in infrastructure) by the universities should be included in an adequate way.

policies in place which supported improving performance on some indicators, so the effects of the performance based funding need to be carefully disentangled from the effects of other policies.

The outcomes of the 2011 evaluation of the formula-based funding model led to the abolishment of formula-based budget. For the third funding period, running from 2013 to 2015, it has been replaced by the *Hochschulraum-Strukturmittel* as described above. This funding model has not yet been evaluated, but some of the indicators - in particular the number of enrolled and active students and the selection of income streams for revenues from knowledge transfer - have been criticised. For example, the first indicator excludes students who are enrolled in more than one study programme, giving them a total of 16 ECTS or more.

### *Potential future developments*

In line with the abolishment of the formula-based funding model and the increase in student numbers in recent years, various proposals have been made to further develop the Austrian university funding model. The most important proposal is a study place financing model. The intention was to introduce the study place funding model in the spring of 2014, but because the Ministry of Finance and the Ministry of Higher Education disagreed on an important issue – splitting the funding for teaching and research – this has not occurred. While the Ministry of Finance prefers a split between the two areas and favours a study place funding model to better respond to increasing the student numbers, the Ministry of Higher Education is in favour of a combined model.

The main characteristics of the proposed study place funding model are (University Act, section 14a-g):

- The total budget provided to universities will split teaching, research and advancement and appreciation of the arts, infrastructure and additional needs for clinical research. The budgets will be allocated according to different principles or funding formulas.
- The Ministry of Higher Education will implement an obligatory national development plan (rather than the current recommended development plan); this plan will have targets for:
  - Progress in the number of students in different disciplines (ISCED level 3);
  - Improvement in the percentage of students who are active students;
  - Improvement in the number of graduates;
  - Improvements in student-staff ratios;
  - Quality assurance;
  - Study programmes (ISCED level 3) for which universities are allowed to restrict access, including the number of eligible students.

The national development plan for higher education will cover a period of six years (two funding periods).

The calculation of the basic budget, based on the performance agreements, will be based on the indicators as listed below:



- Teaching:
  - Amount based on the number of active students<sup>45</sup> (Bachelor, Master and Diploma) weighted by groups of disciplines;
  - Additional 'strategic' amount to cover so-called societal goals.
- Research and advancement and appreciation of the arts:
  - A "Forschungszuschlag" weighted by discipline based on the number of offered and supervised study places;
  - Research universities: additional amount based on a competitive indicator covering the research<sup>46</sup>;
  - Arts universities: additional amount based on a competitive indicator covering research and a competitive indicator covering advancement and appreciation of the arts;
  - Additional 'strategic' amount.
- Infrastructure and additional needs for clinical research:
  - Amount for research infrastructure (apparatus etc.);
  - Amount for premises (buildings etc.);
  - Amount for additional needs for clinical research.

### *Other effects and experiences*

Experiences from the first two funding periods indicate that the steering effect of the model's performance component is rather low. On the one hand this limited effect was due to the complex nature of the funding model and on the other hand to the fact that universities already had a strong interest in fleshing out their profile more clearly and increasing their efficiency. Additionally, other incentives contributed to the profiling and diversification of the Austrian university sector. Though the funding rules have changed, some of them have become institutionalised. Universities have adjusted their (strategic) planning to the three-year funding period that is related to the performance agreements [expert interviews]. Nonetheless the continual changes in regulations and insufficient funding for universities have been heavily criticised by the majority of universities and stakeholders in higher education.

In its study on the performance agreements for the funding period 2013-2015, the science council of Austria concludes that the agreements have had a steering effect on the Austrian universities (Österreichischer Wissenschaftsrat, 2013, from p.35). They argue that the performance agreements have contributed to the further development of the Austrian institutional landscape and clear positioning of the individual universities. They argue that the relationship between the universities' development plans and performance agreements has become clearer. From the council's point of view, the performance agreements have contributed to improvements in teaching, profiling and research. Nonetheless, they also mention various points which are critical of the impact of the performance agreements (Österreichischer Wissenschaftsrat, 2013, from p. 38):

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<sup>45</sup> Active students.

<sup>46</sup> The law does not define this indicator in detail.

- As universities do not need to indicate the weight and priority of their plans and strategies, the evaluation of their impact becomes difficult.
- The text of the performance agreement to some extent copies the universities' development plans. Here the Austrian Science Council recommends that within the performance agreements the most important planned activities should be addressed, while the development plans should be regarded as an instrument to autonomously define the mission statement of the universities.
- It has become obvious that it is easier for specialised universities to profile themselves than it is for comprehensive research universities. The establishment of profiles in teaching is difficult due to the fact that the current student-staff ratios cannot be changed without major (financial) support from the Federal level.

For the upcoming funding period, the Austrian Science Council (2013, S. 38ff) recommends that: the national development plan should become more important, including for the universities' development plans; qualitative indicators should be included in the evaluation of university performance; a more detailed analysis of current performance should form the basis for the universities' profiling strategies and in their reporting on achievements universities should also address those goals that have not been realised.

## Denmark

### *The system*

In Denmark, higher education is offered by four types of higher education institution:

- University Colleges (*Professionshøjskole*), offering professionally oriented first cycle degree programmes;
- Research universities (*Universitet*) offering first, second and third cycle degree programmes in all academic disciplines;
- Academies of Professional Higher Education (*Erhvervsakademi*) offering professionally oriented first cycle degree programmes;
- University level institutions offering first, second and third cycle degree programmes in subject fields such as architecture, design, music and fine and performing arts.

Public higher education institutions in Denmark are regulated by national legislation concerning degree structures, teacher qualifications and examinations. All programmes are accredited by national, independent accreditation agencies and the Accreditation Council. Most of the higher education institutions are regulated by the Ministry of Science, Innovation and Higher Education. The Ministry of Culture regulates a small number of higher education institutions offering first, second and third cycle degree programmes in fine and performing arts.

In 2011, nearly half of the graduates came from the eight research universities. An overview of type of programme by institution is given below:<sup>47</sup>

***Degrees in the Danish Higher Education System:***

Danish qualifications levels	Ordinary higher education degrees	Adult/Continuing higher education degrees	Qualifications Framework for the European Higher Education Area – Bologna Framework	European/National Qualifications Framework for Lifelong Learning – EQF/NQF
<b>Academy Profession level</b>	Academy Profession degree (90-150 ECTS)	Further Adult Education (VU) degree (60 ECTS)	Short cycle	Level 5
<b>Bachelor's level</b>	Professional Bachelor's degree (180-240 ECTS)*	Diploma degree (60 ECTS)	First cycle	Level 6
	Bachelor's degree (within the arts) (180 ECTS)			
	Bachelor's degree (180 ECTS)			
<b>Master's level</b>	Master's degree (within the arts) (120-180 ECTS)	Master degree (60-90 ECTS)	Second cycle	Level 7
	Master's degree (120 ECTS)**			
<b>PhD level</b>	PhD degree (180 ECTS)		Third cycle	Level 8

\* Can be obtained through a full regular bachelor's programme (180-240 ECTS) or a top up bachelor's programme following an Academy Profession degree.

\*\* A few Master's programmes are up to 180 ECTS.

Since 2003, the universities have been autonomous, self-governing public institutions, referred to as 'state-financed self-owning institutions'. The University Act of 2011 (article 2) stipulates that a

<sup>47</sup> See <http://ufm.dk/en/education-and-institutions/recognition-and-transparency/transparency-tools/europass/diploma-supplement/standardbeskrivelse-danish-higher-education-system.pdf>

university must ensure equal interaction between research and education, perform ongoing strategic selection, prioritisation and development of its academic research and disseminate knowledge (including to the university colleges and academies). It must also collaborate with external partners and contribute to the development of international collaboration. It should encourage its employees to take part in public debate.

### *The policy context*

Over the last decade, there have been several reforms of the Danish higher education system:

- An increase of the public budget for research (from 0,75% of GDP in 2005 to 1,05% of GDP in 2011);
- (Imposed) mergers in the system;
- ‘Modernisation’ of the internal governance system of universities;
- Introduction of a new system of quality assurance;
- Introduction of financial incentives to enhance performance in education and in research;
- Introduction and adaptation of the dialogue between the state and the universities through performance agreements.

The reforms over the last decade took place in the context of political projects to develop new forms of governance and a ‘modernised’ public sector, in line with the OECD’s view published in 1995 (the PUMA-programme). The 1992 Danish University Act intended, among other things, to enhance institutional autonomy and encourage universities to plan their activities with a long-term perspective. With the introduction of the University Act in 2003, universities became state-financed self-owning institutions. , The internal university governance and management structure was changed, which was an international trend in this time period. The aims of this reform were, among other things, to grant more institutional autonomy, self-management and responsibility, combined with a stronger focus on production and a stronger relationship between production and financial resources. At the same time, it has been argued that in practice the government still has considerable control over the higher education sector, as several reforms after 2003 indicate. The minister can, for example, still dispose of university boards, developmental contracts have been introduced, the state owns most of the university buildings, and the Ministry of Finance has influence over various accounting principles. An Expert Committee concluded: “More *autonomy* of the universities has been achieved and the decision-making capacity of universities has been improved. However, this development has been accompanied by a dense set of rules and regulations, many of them too detailed. An actual increase in the overall responsibilities of the university level has therefore been less evident, compared to the responsibilities of the central administration.” (Expert Committee, 2009, p. 10)<sup>48</sup>

The reforms are also related to the Globalisation Strategy. In 2006, the Globalisation Council, chaired by the prime minister, developed a strategy that aimed to: 1) link the basic public funding of universities more directly to quality and performance; 2) increase participation rates in higher education from 45% to 50% and improve student completion times; 3) double the number of PhD graduates and stimulate internationalisation; 4) introduce an accreditation system in Danish higher education. The strategy was accompanied by a substantial budget.

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<sup>48</sup> The university evaluation report can be at: <http://ufm.dk/en/publications/2009/danish-university-evaluation-2009>

The policy developments in Danish higher education show that there has been a continuous emphasis on strengthening the relationship between funding and performance. Greater efficiency and effectiveness is expected to come from competitive allocation of funds – another trend in the last decade. The balance between the basic state grant for research and competition based state research funding is tilting towards the latter. In more general terms, there has been a gradual movement from traditional service delivery to performance related service rewards, in Denmark this is referred to by the phrase “from research to invoice”.

Thus, the last decade of reforms have aimed to improve quality, increase productivity, and enhance efficiency. Moreover, they also intended to sharpen the international profile of universities (e.g. Schmidt, 2012, p.46). International competitiveness was one of the key goals. And while quality of education was one of the overarching themes, systemic diversity and institutional profiling were barely (explicitly) referred to as major policy goals for the system, with one exception. The mergers between universities and state research institutes were intended to reinforce the institutional infrastructure, sharpen the profiles of the universities, particularly in an international context, improve quality in terms of output and impact, and increase the potential to obtain international research funding.<sup>49</sup> The increased size of the merged organisations also provides more room to manoeuvre for the organisation, and gives opportunities to use bigger budgets for strategic prioritising.

There have been two other policies that can be linked to systemic diversity and institutional profiling, although these were not stated as formal policy objectives. The first is that the binary divide was maintained. The legislators shape the landscape by defining institutions with different mandates. The second is the introduction of contracts between the government and individual institutions in 2000 (see below). While one of the goals of these contracts was to stimulate institutions to increasingly act as ‘real strategic actors’, diversity and profiling were not specifically mentioned.

### ***The funding model***

Danish funding of higher education and research is a mixture, based on contracts and negotiations, history (incremental), formulae and performance indicators. Schmidt (2012, p.45)<sup>50</sup> observes a trend towards formula based funding, increasing linkages between basic funding and performance indicators and contracts, a change from input to output based funding, and an increase in funding based on competitive procedures.

Approximately 90% of university funds come from the state. The state funds are allocated as a lump sum – in general there are no restrictions on how universities wish to spend the state operational grant. For the public funding allocated through the funding formula, for universities about 40% is a fixed amount, while 60% is performance-based (the total amount of public funding to universities is 15.864 mil. DKK in 2013 – approximately €2.100 million). For university colleges, the fixed amount is 11% and 89% is performance-based (the total amount of funding to university colleges is 4.072 mil. DKK in 2013 – approximately €550 million). In the remainder of this chapter we will focus solely on universities.

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<sup>49</sup> Schmidt, Evanthia K. (2012) European Flagship Universities: balancing academic excellence and socio-economic relevance - Background Report, University of Copenhagen. (<http://www.sv.uio.no/arena/english/research/projects/flagship/institutional-reports/copenhagen.pdf>)

<sup>50</sup> Schmidt, E.K. (2012) University funding reforms in the Nordic countries, in: F. Maruyama and I. Dobson (eds.) Cycles in university reform: Japan and Finland compared, pp. 31-56), Tokyo: Center for National University Finance and Management.

The allocation model has two major components: one for education and one for research. In general terms, about 29% of the state budget is performance-based funding for education, 31% is basic grants for research, 33% is competitive research funding, and 7% other (libraries, museums, interests and so on).

The performance based funding for education is based on the taximeter system.<sup>51</sup> This is based on output control in the form of funding allocated on the basis of the students' academic activity measured in terms of exams passed. Different types of rates (teaching, field practice, joint expenses and building taximeter) are combined in one education rate in the taximeter scheme. Next, the universities may receive a completion bonus that is based on students' study duration. The universities therefore receive a subsidy that is based on passed exams (taximeter 91% in 2014) and a bonus if students complete their studies on time (completion bonus – 9%). This excludes income from tuition fees paid for part-time programmes and income from the municipalities.

The taximeter scheme has been used to promote the political objective of increasing study completion rates. Firstly, in 2004 a new taximeter type was established in the form of a completion bonus for the universities, which was triggered when a student completed a Bachelor programme. Then in 2009, a new completion bonus was introduced which, unlike previous schemes, is conditional upon the duration of the study so universities are only paid the completion bonus upon the student completing his/her study programme within a specified period. The bonus is funded by reducing the taximeters; the bonus is in fact a "pool", which is shared in competition with other institutions. Effective from 2009, the universities receive a:

- Bachelor bonus when students complete a Bachelor programme within the prescribed study period plus one year;
- Master's bonus when students complete a Master's programme within the prescribed study period.

There is now a new "completion-agreement". By 2020, if the students do not complete their studies on time, the universities will lose a substantial amount of money (although it is not yet clear how much).

The taximeter tariffs vary by groups of disciplines: €13.000 for natural, health and technical sciences, €6.000 for social sciences and humanities, and € 9.000 for "combinations". The bonuses also vary: Ba/Ma – Nat/Tech/Health 54.100/29.700 DKK, combinations 37.00/20.300 DKK, humanities and social sciences: 25.600/14.00 DKK.<sup>52</sup>

The funding for teaching is allocated at the start of the year, based on the university's expected output of student exam passes at the end of the year. The government then settles the accounts with the university on the basis of actual output at the end of the year.

The major part of the basic grant for research is historically conditioned and fixed according to 'incremental budgeting'. In 2013, the ministry estimated that 50 per cent of the basic funds were distributed on the basis of historical principles, 30 per cent according to performance-based principles (accumulated) and 20 per cent came from increased investment in PhD-programmes. Thus, the basic

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<sup>51</sup> The taximeter system was introduced in 1994 and has been revised several times since then.

<sup>52</sup> 1 DKK = 0,13 EUR

grants for research also have a performance-based element. These performance-based allocation principles redistribute 2% of the universities' existing basic grants for research (restructuring fund) and distribute the *new basic grants* for research as part of the funds coming from the globalisation strategy. The distribution of the performance-based part of the research fund (the restructuring fund and the new basic grant) is based on:

- 45% allocated proportionally on the basis of educational activities – in addition to the subsidy for teaching through the taximeter scheme, universities receive money for research based on their educational activities;
- 25% allocated proportionally on the basis of the amount of research financed by external parties (private companies, municipalities, EU-grants);
- 20% allocated proportionally on the basis of bibliometric research indicators (where they follow the Norwegian system);
- 10% allocated proportionally on the basis of the number of graduated PhDs.

The performance-based element of the basic research funding was changed in 2010. The major change concerned the introduction of a new performance-based parameter to distribute the *new basic funding*. New basic funding refers to funding from the so-called globalisation funds (a new budget additional to the existing basic research grant) as well as to the redistribution of the annual 2% cut in research funds. If some of these funds are redistributed to the universities as basic funds, they will be divided among the universities according to the model. The cumulative effects of the model are substantial.

This new parameter used to distribute the new basic funding is the university's research publications (**BFI**). Over three years, the distribution between the four parameters of the new basic grant gradually changed, i.e. external funding performance got less important and publication output more important.<sup>53</sup> BFI is a quantitative distribution system.<sup>54</sup> There are several publication types such as books, book chapters, journal articles, PhD-and doctoral-theses, and patents and each publication is worth points – at two levels (the elite level and the other level). Sixty-seven expert groups of academics from different disciplines have rated the publication types. The funds are distributed based on the total number of points per university.

In addition to the basic grants for research there are competitive grants for research. The balance between the two is roughly 60% basic grant (lump sum) and 40% competitive grants. These competitive grants consist of public competitive grants (about 28%) managed by the two research councils, the Danish Council for Independent Research (DCIR) and the Danish Council for Strategic Research (DCSR) and other external sources (about 12%) such as private funding, EU-funding and other international funds.

### ***Performance agreements (Development contracts)***

In addition to the legal and funding instruments, the individual universities are regulated via dialogue between the university and the Ministry of Science. The most important of the dialogue-based instruments are the development contracts. In 1999, the government announced that it intended to

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<sup>53</sup> The distribution between education activities, external funding, publication output and PhD graduates changed from 45-35-10-10 in 2010 to 45-20-25-10 in 2012.

<sup>54</sup> See Claus Vesterager Pedersen (2010), The Danish bibliometric research indicator – BFI, *Sciocominfo* 4 for a detailed description of the BFI.

introduce performance contracts with individual universities. It was said to be a management reform that should offer universities more opportunities and flexibility to respond to changing demands and expectations. The aim was to focus on the management of goals and results rather than on consumption of resources, budgetary constraints and general regulations (MRIT 2000).<sup>55</sup> This new steering instrument marked, in the government's words, a shift from control and top-down regulation to dialogue and agreements based on the universities' own goals and commitment. The goals, reached in agreement between the government and the individual institution, should fit within the general frame set by the government, and should: 1) be based on the strategic work already in progress at the universities; 2) have the first step taken by the universities; and 3) be concrete in order to be suitable for internal management and for external reporting.

Initially the ministry stated that the performance agreements are not legally binding but are *statements of intent* between the government and the individual universities, which should be used in the universities' strategic planning. They had the character of an experiment: they could be revised by the end of the first contract year, or if the conditions changed and both parties were prepared to accept an adapted version of the contract. University involvement was voluntary. The ministry did not have the authority to impose specific targets on the university, nor did it have the instruments to sanction any underperformance. The first performance contracts differed from a classic contract in the sense that there was no automatic relationship between reaching the set targets and the grants awarded (Schmidt, p.4)

The process in general terms was that the ministry invited the institutions to draft a contract and gave some 'suggestions' for the main subjects. This draft contract was discussed in two or three rounds, leading to a final contract to be signed by both parties. The university had to report on its performances, as set out in the contract, in its annual institutional report. This annual institutional report is to be discussed within the university and discussed by the ministry and the university. The universities' performances are reported to the Danish parliament by the minister. The impact of parliament on the development contracts is hard to determine. It has been suggested [expert interview] that in a consensus seeking political culture, usually having minority cabinets, the influence of parliament could be substantial. In parliament the general challenges facing the sector are discussed and hence influence the minister's choice of sector goals.

In 2000, internal and external stakeholders participated in the first phases of establishing the contract. This was the process of goal setting, in which management, staff, students, elected bodies, and consultation and advisory boards discussed the goals the university should achieve. The resulting draft was approved by the Academic Council and sent to the ministry. At the University of Copenhagen, for example, the process of drafting the performance contract stretched over more than 18 months, as democratically elected bodies discussed matters, and councils, faculties, and committees were involved.

In the summer of 2000 the ministry listed the common themes from the ten contracts signed in the document "University Performance Contracts – The Danish Model". In total, thirteen common actions were stated, referring to student mobility, study duration and study success, number of graduates, size, quality and dissemination of research, commercialisation and patenting of research outcomes,

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<sup>55</sup> RMIT (Ministry of Research and Information Technology) (2000), *University Performance Contracts – the Danish model*, Copenhagen.



attention to external funding, and the recruitment of foreign researchers. Each of these actions were subdivided into goals and actions individual universities intend to pursue. For example, with respect to action 1, "Planning, evaluation and reporting of research", (some) universities were supposed to enhance research planning at departmental level, develop new methods for evaluating research together with external partners, develop standards which could be used as parameters for the quality of research and take special initiatives to monitor the quality of patenting and innovation.

The second-generation university development contracts were introduced in 2004, with a stronger focus on quantitative targets and indicators. The contracts were supposed to serve as the university board's tool to monitor overall qualitative targets and simple quantitative targets. The third generation (2008–2010) was a first attempt to link stated objectives and university outcomes and funding. Universities were required to use indicators when setting targets and formulating strategies for future activities. All development contracts include targets for 16 activities which were considered relevant in establishing the basic targets for the performance of the universities.

The current development contracts for 2012–2014 have a maximum number of ten goals per institution. These goals must be 'smart' and aligned with the university's profile. The minister indicated five of these goals. As an example, the development contract 2012–2014 for Aarhus is described below.

#### ***Development Contract Aarhus University 2012-2014***

A-D: Obligatory goals set by the Danish Ministry of Science, Innovation and Higher Education

E-G: Goals selected by Aarhus University

1 -12. Indicators and targets

##### **A. Degree programme quality**

There is a societal focus on the quality of study programmes. As documentation for Aarhus University's efforts, the focus is on two central and independent assessments of the quality of the university's study programmes: the students' assessment of how satisfied they are with their studies, and the labour market's assessment of the quality of the university's graduates. The university has made a point of not choosing indicators that are based exclusively on objectives concerning input – for example the number of teaching hours – as they do not in themselves guarantee high quality standards in the programmes.

*1. Student satisfaction with their studies* (Measures the quality of Aarhus University's degree programmes through the study environment survey's measurements of the extent to which students at Aarhus University are "satisfied" or "very satisfied" with the overall quality of their studies.)

*2. Transition to the labour market assessed through analyses of the job situation 4-19 months after graduating* (Measures the quality of Aarhus University's graduates as well as the university's ability to tailor its study programmes to the needs of the labour market through labour market demands. The employment rate is heavily impacted by economic cycles. With its chosen targets, Aarhus University aims to achieve a better development in the employment rate than that achieved by the sector in general.)

##### **B. Better cohesion in the educational system**

Aarhus University's position in a coherent educational system is based on the exterior context, which focuses on the vertical movement from upper secondary school education to the university, as well as the interior context,

which focuses on the horizontal movement between the institutions of higher education. Aarhus University wishes to emphasise the importance of smooth transitions between degree programmes, thereby creating a more flexible, interconnected educational system.

*3. Number of upper secondary school students taught by students and researchers from Aarhus University through "The Touring University" scheme* (Measures the scope of one of Aarhus University's many recruitment activities aimed at creating a smooth transition from the upper secondary school programmes to the university by giving students a sense of the academic level and the academic environments at the university. The measuring point has been chosen because effective recruitment from upper secondary schools is very important for Aarhus University and the knowledge society.)

*4. Number of Master's degree students enrolled on the basis of a Bachelor's degree or a professional Bachelor's degree from other Danish educational institutions* (Measures Aarhus University's ability to attract qualified Danish students with a Bachelor's degree from other universities and professional Bachelor's degree graduates from other educational institutions, thereby contributing to creating greater coherence in the overall educational system.)

### **C. Faster completion times**

Effectively organised degree programmes are necessary if students are to complete their studies faster. The educational institutions must also offer students the option of fast-tracking their studies by doing additional units or catching up on study elements which they have missed. Participating in Summer University activities helps in this respect.

*5. Number of ECTS credits earned by students at AU Summer University enrolled on full-time study programmes at a Danish university* (Measures the activity on one of Aarhus University's initiatives for ensuring flexibility in the study programmes and faster completion times. The summer university is a tool for ensuring greater study efficiency with activities distributed throughout the year.)

*6. Completion times for Bachelor's and Master's programmes* (Measures Aarhus University's ability to increase the lifelong contribution to the labour market and social development by graduates of Master's degree programmes. The selected indicators are based on the Danish government's objectives of moving students faster through the educational system.)

### **D. Increased innovation capacity – knowledge exchange with society**

With its considerable academic breadth and high-level research and education, Aarhus University has the best possibilities for opening its doors to the outside world and exchanging knowledge, ideas and expertise with society at large. Knowledge exchange is measured through the economic scope of two key activities. The development of the students' innovative skills through the inclusion of entrepreneurial elements in the programmes is also an important element in the university's increased investment in innovation. Effective integration in the programmes has a qualitative effect on the students' entrepreneurial spirit, but it is still difficult to establish measuring points which cover the activity.

*7. Financial scope of partnership agreements with society* (Measures Aarhus University's ability to ensure effective knowledge exchange between the university's research environments and the rest of society through concrete partnership agreements with businesses and public authorities. This also includes the contribution made to innovation through the provision of public-sector services within, among others, the food, environment and energy sectors.)

8. *Financial scope of continuing and further education* (Measures Aarhus University's ability to contribute to knowledge exchange and ensure citizens the opportunity to participate in research-based lifelong learning activities tailored to the needs of society.)

#### **E. Research quality**

Research is the principal cornerstone of Aarhus University, and is the foundation for the university's other core activities. The quality of the university's research is measured according to two indicators. The university has decided to measure research impact rather than the number of publications to document the relevance of the research produced at the university for the scientific community. The ability of the university's research groups to – in open competition – attract funding from foreign sources is another indicator, which is based on an independent international assessment of the quality of the research.

9. *Impact of Aarhus University's research in the international research community* (Measures the impact of Aarhus University's research in relation to a normalised world average. The indicator is calculated on the basis of the proportion of the top 10 per cent most cited publications which the university has within the individual research fields. The university's research impact lies at a very high level and is expected to stabilise over the contract period. However, a temporary fall is expected which can be attributed to the mergers in 2007 which 1) resulted in a new and broader university or 2) has demanded many resources for academic reorganisation. During the contract period, Aarhus University will, in collaboration with the Danish Centre for Studies in Research and Research Policy, continue to work with the existing measuring method, among other things with a view to ensuring broader coverage.

10. *External funding from non-Danish sources* (Measures the international competitiveness of Aarhus University's research as well as Aarhus University's ability to internationalise its research and make the most of the funding opportunities in the EU system, including the ERC and other foreign sources.)

#### **F. Talent development**

Talent development is a core activity for Aarhus University. The university's ability to find and develop the most promising research talents helps to ensure the Danish knowledge society a sizeable pool of talent which will form the basis for continued welfare and growth for future generations. The quality of the activities is measured through society's interest in employing PhDs from Aarhus University.

11. *PhDs' transition to the labour market assessed through analyses of the job situation 4-19 months after being awarded their PhD degrees<sup>11</sup>* (Measures the quality of Aarhus University's PhDs as well as the university's skill at talent development and at tailoring the PhD programmes to the needs of the labour market. The employment rate is heavily impacted by the economic cycles. With these targets, Aarhus University is aiming at achieving a better development in the employment rate than achieved by the sector in general).

#### **G. Global solutions**

Aarhus University wants to help contribute to solving the major challenges facing society, challenges which span the traditional scientific disciplines. Interdisciplinary initiatives and the dissolution of scientific and scholarly barriers are absolutely key to solving these global challenges. The chosen indicator measures this.

12. *Total annual – internally and externally financed – investments in Aarhus University's interdisciplinary centres<sup>12</sup>* (Measures Aarhus University's ability to produce solutions to global challenges through the establishment of interdisciplinary centres. It is part of Aarhus University's strategy to set up new centres, and the ambitious objective for the period also involves the ability of these centres to attract external funding to a significant extent in open competition.)

Thus, there are seven goals, each measured by one or two indicators; four of these goals are indicated by the government and three of them by the university. This contract was signed under the conditions that: 1) the government ensures research budgets at minimal level of 1,0% GDP, and 2) measures will be taken to facilitate pathways between the higher education subsectors.

The contracts are (still) not legally binding – they are letters of intent. The universities must report on their contracts in their annual reports and in the annual audit (“tilsyn”) by the ministry. They can receive comments and critique from the minister, who can remove the board, if they do not comply with the contracts.

### *Effects and experiences*

In Denmark the following performance-based indicators are currently used:

- Number of students in terms of exams passed per institution;
- Number of students finishing their programmes on time;
- Amount of external funding generated by the institution;
- Weighted number of publications per university;
- Number of PhD-graduates.

The funding for teaching – about 31% of the total public university funding and about 27% of total university income – is almost completely performance-based. The effects of the completion bonus are not known. But the universities argue that on the one hand the bonus is irrelevant, as a new and far stricter system has been set in place, while on the other hand the universities could lose significant annual funds if average study time is not reduced enough.

The amount of public research funding based on performance is *relatively* small. It is 2% of the historically determined basic research budget, plus additional funds from the globalisation resources. The consequences, however, could be serious. Wright et al. (2014) argue that it might take little money to achieve big changes in the university sector.<sup>56</sup>

The amount of external funding generated by the universities, which varies significantly across the universities, has increased over the years. Although it is tempting to assume that this is due to the funding performance indicator ‘external funding’, there is no proof for this causality.

Publication outputs have also increased, although one might argue that these outputs have always been rather high (in an international perspective, i.e. also without publication output performance indicators). This latest performance based funding indicator has attracted much attention. The downsides mentioned in the discussions are that such ‘productivity rewarding funding parameters’ can narrow the purpose of the university (marginalise other important university activities), lead to a focus on quantity instead of quality, prioritise output over impact (citations are not part of the funding formulae), and lead to the emergence of a managerial class to control university performance at the expense of the academics’ professional autonomy (e.g. Wright et al. (2014)). Again, there is no

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<sup>56</sup> Wright, S., B. Curtis, L. Lucas, and S. Robertson (2014), *Research assessment systems and their impacts on academic work in New Zealand, the UK and Denmark*. Working papers on University reform, (24), Department of Education, Aarhus University.

convincing proof for the downsides of using bibliometrics for funding, but if they are accurate, then the impact runs counter to the government's goals of enhancing quality and systemic diversity. A model of 'one size fits all' cannot be applied to all types of institutions effectively without diminishing diverse missions.

In general terms, Schmidt (2012, p.46) argues that studies reveal that even a relatively small proportion of funding linked to modest numbers of objectives improves efficiency, while linking funding to a complex set of objectives results in difficulties defining appropriate indicators.<sup>57</sup> This could ultimately lead to efficiency problems. According to Salmi and Hautpman (2006), performance-based funding does enhance efficiency but its ability to improve quality is less convincing as the task of developing measures of quality to be incorporated into formula and calculations is very difficult.

The intermediate adaptations of the development contracts over the years suggest that the first contracts did not meet all expectations. Interim evaluations indicated that there was room for improvement. An international expert group, set up in 2009 to evaluate the University Act of 2003, argued that the first development contracts could hamper institutional autonomy and limit university flexibility, while they also have potential for strategic steering. In the expert group words: "The development contracts could be used as individual, helpful tools for the universities' strategic development and profiling, as well as for realising important targets, such as speeding up graduation and specific enrolment targets. However, we do not find the development contracts in their current practice effective enough as such steering instruments, as the explanatory notes to the University Act make them less appropriate for this role. The development contracts have become too detailed and process-oriented. In practice they consist of a list of indicators, on which universities provide data." (MSTI, 2009, p.)<sup>58,59</sup>

The first performance contract (2000–2003) for the University of Copenhagen, signed by the university rector, the secretary of state of the Ministry of Research and Information Technology and of the Ministry of Education<sup>60</sup>, is fifty pages long, detailed and has, in the university's own words, the character of a "comprehensive planning contract". Divided into seven topics<sup>61</sup>, it outlines fifty-five actions. In addition to the actions it contained analysis of the developments and problems faced by the university. The actions were contextualised, leading to something that looks more like a strategic plan than a 'focused contract'.

In 2000, the University of Copenhagen was in principle willing to consider the university performance contract to be a constructive tool. At the same time, it warned against too narrow a focus on contractually-defined activities that might kill promising initiatives rising spontaneously. They stated: "if the grant-application authorities do not understand this problem [that is recognising that

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<sup>57</sup> cf. Auranen, O. and Nieminen, M. (2010). University research funding and publication performance – An international comparison. *Research Policy* 39, pp. 822-834.

<sup>58</sup> MSTI (Ministry of Science Technology and Innovation (2009) The university evaluation 2009. Evaluation report.

<sup>59</sup> Moreover, the Expert Group argued that "for an overview of the university sector, the Parliament, as well as the Ministry, obviously needs comprehensive information and statistics on the universities' performance. This information is necessary and can be developed in dialogue with the universities, but it does not necessarily belong in a development contract."

<sup>60</sup> At that time both ministries were bearing responsibility for some parts of the contracts. Thus, the contract was a signed letter of intent between the university and two ministries.

<sup>61</sup> These seven topics are: research, education, dissemination, special integrated efforts, internationalisation, infrastructure conditions, human resource policy.

universities are special organisations in a constantly changing environment], there is a risk that the university performance contract becomes a straitjacket for development rather than the catalyst it is intended to be.” (Introduction to the University Performance Contract 2000-2003 for the University of Copenhagen).

In summary, the evolution of four generations of development contracts indicate that:

- There has been a shift from ‘comprehensive strategic plans’ to ‘selective mission-based contracts’.
- There is now more attention paid to the linkage between the agreed targets and funding. The assumption is that a lack of a coupling between performance and funding would undermine the effectiveness of the instrument. However, it is also argued that the connection between funding and contracts is still very indirect if it exists at all [expert interview].
- The number of agreed targets laid down in the contract has diminished. A reduction in the number of subjects covered is assumed to improve the effectiveness of the instrument. It seems that performance agreements should be selective and not cover all ground in higher education. Lengthy contracts including contextual explanations and analyses should be avoided.
- The agreements have become ‘smarter’, more specified with clear targets and ways of measuring and monitoring (e.g. latest development contract of Aalborg).
- With the shift in the character of the contracts, the behaviour of the universities has started to change as well. More and more universities had to think and act more strategically with regard to their education and research.
- The universities realise the need for accountability and accept the contracts.
- Universities in Denmark support the present contract-model, however quite a few examples of double or triple steering have been seen (the same thing steered through legislation, via funding and in the contracts). It is fair that some common goals are set by the ministry, however, these common goals should not (as the minister wishes) be shared by non-research institutions (academies etc.) as that may diminish the role of research in the contracts [expert interview]
- External stakeholders are not specifically involved in establishing the development contracts, but they do make up a majority of the university board which signs off the contracts and is ultimately held accountable.
- Academic staff, in general, are not happy about the evolution of the performance contracts, as they perceived it as a threat to their professional autonomy. In particular, the targets on education and research may nurture the feeling of being less in control (vis-à-vis university management, for instance).

## Finland

### *The system*

Finland has a binary system comprised of 15 universities and 26 polytechnics (universities of applied sciences). Education is free at all levels: from pre-primary to higher education. Adult education is the only form of education that may require payment. Moreover, to ensure the accessibility of study opportunities there is a student financing system, consisting of grants and loans, available to all students.

The universities are represented by the umbrella organisation Universities Finland (UNIFI). They vary in terms of size, history and orientation. There are ten multidisciplinary universities and five specialised universities (two in technology, one in economics, one in arts, and one military). They confer Bachelor's (3 years), Master's (2 years), licentiate (2 years) and doctoral degrees (2–4 years). In 2013, Finnish universities awarded 13,200 undergraduate degrees, and 14,600 graduate degrees (Master's).<sup>62</sup> The oldest (1640/1827) and by far the largest university – enrolling 21% of all university students – is the University of Helsinki. Universities focus on research and research-based education.

In 2009, the governance structure of universities was changed in two ways (2009 University Act). Firstly, universities were decoupled from the state administration to become independent legal entities, subject to either public or private law. Aalto University and Tampere University of Technology became entities under private law, while the other universities chose to become public corporations. Consequently, the 2009 University Act gave additional autonomy to universities. Secondly, the composition of the university board changed: 40 per cent of members of university governing boards have to be external. The board members are responsible for budgets, financial statements and management of assets, accounting and control. For the latter two aspects the board members bear personal liability.

Polytechnics offer work-related education in response to labour market needs. Polytechnics offer both Bachelor's (3.5–4 years) and Master's (1– 1.5 years) degrees. In 2013, about 19,000 undergraduate and around 1,950 graduate (Master's) degrees were awarded by universities of applied sciences<sup>63</sup> (adult education not included).

The owners and boards of polytechnics are responsible for the governance of their institutions. Polytechnics usually have multiple owners: the municipality, the region, and/or private entities. In 2007-2008, several polytechnics merged. More mergers between polytechnics can be expected, especially with the government intending to decrease the number of municipalities.

### *The policy context*

Recent reforms, in governance, mergers, quality assurance as well in funding models for universities and polytechnics, should be seen in the context of Finland's ambition to become the most competent nation in the world by 2020. As elsewhere in Europe, over the past few years Finland has granted its higher education institutions more autonomy. The universities are expected to differentiate through profiling themselves. More specifically, the profiles are expected to reflect their strengths in terms of

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<sup>62</sup> Statistics Finland (2013): University education [e-publication]. Retrieved from: [http://www.stat.fi/til/yop/index\\_en.html](http://www.stat.fi/til/yop/index_en.html).

<sup>63</sup> Statistics Finland (2013). Polytechnic education [e-publication]. Retrieved from: [http://www.stat.fi/til/akop/index\\_en.html](http://www.stat.fi/til/akop/index_en.html).

education, research, internationalisation, and (international) cooperation. The distinct profiles allow for the Ministry of Education, in dialogue with each HEI, to set operational and qualitative targets and to determine the resources required every four years. The targets are included in performance agreements (see below).

Other government ambitions relate to educational attainment, creating equal opportunities, improving completion rates and reducing time to complete degrees, and matching the education supply to labour demands. The 2020 policy goals are:

- To have 30% of 25–64 years olds holding a higher education degree; for 30-years olds this aim is 42%.
- To create equal opportunities for everyone, irrespective of gender, age and social and ethnic background.
- To shorten the overall time spent in education and training and the average age at the time of qualification by means of shortening the time spent at each level of education, expediting transition phases, reducing unnecessary doubling in education and enhancing recognition of prior learning, improving completion rates in education, and matching the education supply to labour demands.

Following the reform of the university sector, the government is currently in the process of reforming the polytechnic sector. The main objective is to amend the Polytechnic Act concerning the funding and administration of polytechnics. The basic funding is to become entirely the responsibility of the government (instead of a shared responsibility between government and local authorities) and the polytechnics are to become independent legal entities, similar to universities. The first phase of the reform came into effect in January 2014. It included a new funding model, new operating licences, and updated educational responsibilities.

### ***The funding model***

The government allocates core funding (i.e. the direct government funding) to the universities and polytechnics. The core funding covers about 64% of universities' budgets.<sup>64</sup> Public research funding is a separate part of the budget. Half of the public funding for research and development is allocated by the Ministry of Education, mainly through the Academy of Finland's competitive research grants. About one third of the R&D funding is allocated by the Finnish Funding Agency for Innovation (Tekes), which is a department of the Ministry of Employment and the Economy.

To calculate the core funding, performance indicators are used. For universities, 75% of the core funding is allocated based on performance indicators. For polytechnics this is 100%. Allocation of project funding is determined differently. From 2013 and 2014 respectively, universities and polytechnics are funded based on their achieved performance outputs, rather than the targeted outputs. Hence, the funding for 2015 is calculated in 2014, using the average performance achieved by the institution between 2011 and 2013. The ex-post approach strengthens the connection between performance and the amount of funding. The yearly sum of funding an institution is to receive is calculated annually, but the actual funding is paid monthly.

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<sup>64</sup> [http://www.minedu.fi/OPM/Koulutus/yliopistokoulutus/hallinto\\_ohjaus\\_ja\\_rahoytus/?lang=en](http://www.minedu.fi/OPM/Koulutus/yliopistokoulutus/hallinto_ohjaus_ja_rahoytus/?lang=en)



The parliament decides on the overall amount of funding available for the institutions. The funding models determine what percentage of the funding is allocated to which performance. For instance, for universities 15% of the funding is allocated to Master’s degrees. Consequently, universities receive funding for each Master’s degree they produce. If a university does not achieve the target, it will not receive the full 15%. If the output is more than the agreed target, the university will not receive additional money.

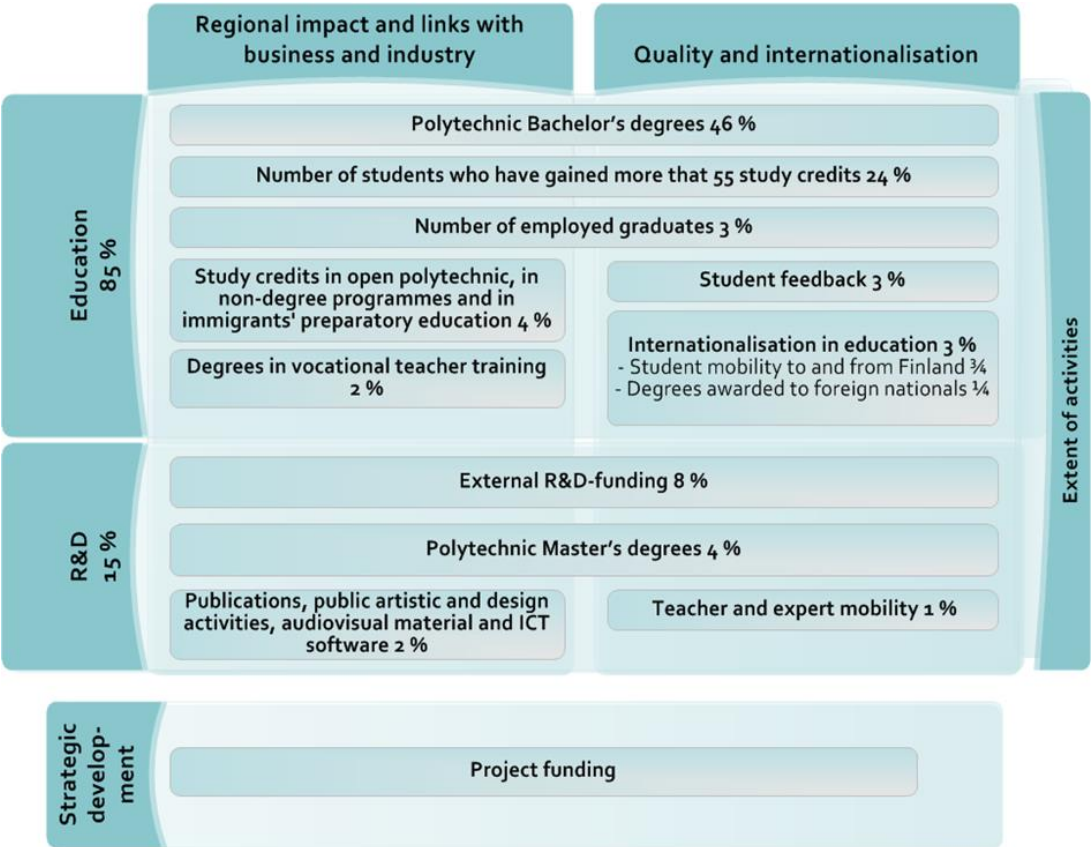
The funding model, quantitative targets and performance indicators for universities and polytechnics differ. Therefore, the two will be discussed separately.

**Polytechnics**

Although changes are expected, currently the government and local authorities share the costs of polytechnics. Funding from the government comes in the form of variable core funding (based upon unit costs per student), project funding and performance-based funding (e.g. number of completed degrees). The unit costs per student depend on the field of education.

As part of the ongoing reform of the polytechnic sector, a fixed formula for core funding was implemented in 2014 (see figure below). Performance indicators cover the pillars education (85%), research (15%), and strategic development (project funding). Indicators relate to degrees conferred, student progress, research productivity, external research funding (including by the Academy of Sciences and TEKES, a research council), contract income, and internationalisation (student mobility).

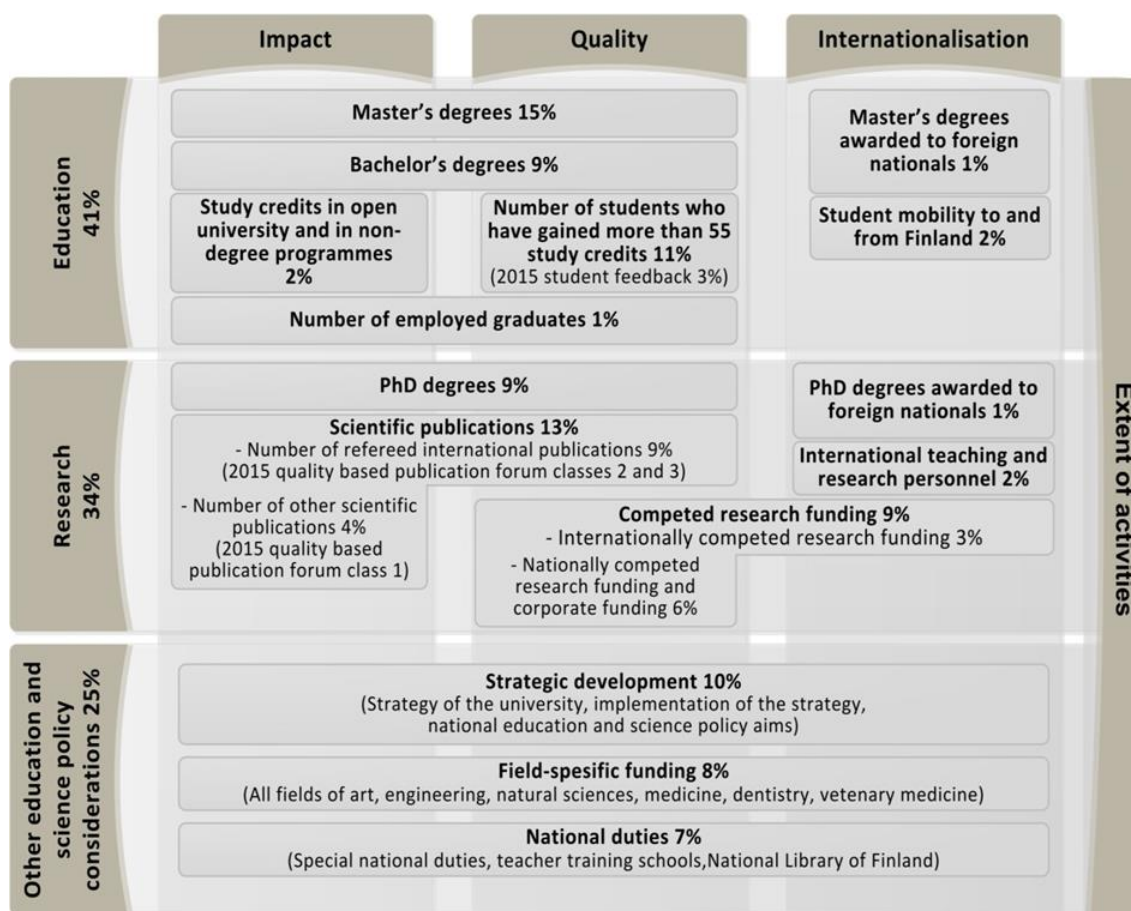
The figure below shows the polytechnics’ core funding model from 2014 onwards (source: Ministry of Education Finland, 2013).



## Universities

The core funding of universities is based on a fixed formula. The formula was adjusted in 2013 and, in comparison to the formula used in the 2010–2012 performance period, puts more emphasis on quality, effectiveness and internationalisation. The funding formula comprises three main parts: education, research, and other education and science policy objectives. For universities the indicators are similar to those for the polytechnics, but have different weights, with the education, research and strategic development pillars account for 41%, 34% and 25% respectively (see figure below). For universities, alignment with overall education and science policy goals is an important ingredient (25%) of the funding agreement. Here, the strategy of the university (10%), its orientation towards specific disciplinary fields (8%) and the carrying out of national duties (7%) are fed into the funding model.

The figure below depicts the universities core funding model from 2013 onwards (source: [www.minedu.fi](http://www.minedu.fi)).



To ensure universities comply with the requirements of the funding model, the Ministry of Education can discontinue payment of funding if a university no longer arranges an activity on the basis of which the funding is allocated, if the university acts in violation of the University Act, or if the grounds for allocating the funding for a specific activity have essentially changed or were incorrect. If a university

receives an erroneous payment, it has to be returned. Similarly, funding is to be returned if the funding is used for a purpose essentially different from what it has been allocated for and if the university received the funding on the basis of false or misleading information it provided. If a university does not return the erroneously received payment, interest will be charged. Alternatively, the outstanding payment may be recovered by a reduction in the allocated funding. Importantly, the university is allowed to keep all funds allocated through the funding model, even if the actual expenditure is less. Since the conception of the performance agreements and the performance funding, the ministry has never had to use these described provisions from the University Act.

### *Performance agreements*

The Finnish government introduced performance agreements for higher education institutions as early as 1994, gradually focusing agreements more on performance (Rinne, 2004; Orr, et al., 2014). Currently, the performance agreements for polytechnics and universities, covering a four-year period (2013-2016), have four structural elements:

1. Objectives set for the higher education system as a whole:
  - Verbal goals formulated in dialogue with HEIs;
  - Comprise the statutory duties, structural development, quality, competitiveness, effectiveness, internationalisation, the viewpoint of staff and students, and the cost-effectiveness and productivity of the activities.
2. Mission, profile and focus areas of the HEI.
3. Key Development Measures:
  - 1 to 5 projects per HEI linked to the implementation of the HEI's strategy.
4. Funding:
  - Core and project funding;
  - Monitoring and evaluation.

Both the University and Polytechnics Acts dictate that the Ministry of Education (represented by the head or director of the higher education unit) agrees with higher education institutions (normally the board of the institution) on objectives and institution specific targets. Other stakeholders (e.g. sector representatives) are not included in the process leading to performance agreements.

The processes that lead to performance agreements for the universities and polytechnics follow the same procedures. Developing performance agreements is an interactive process. Firstly, the ministry sets the timetables and the guidelines, which indicate the government and ministry's goals and targets for the whole sector. The ministry set the targets so that they are in line with the development plan, which is based on the goals of the newly elected government. Secondly, the institutions provide feedback on the guidelines, supply information on their strategic direction, indicate what they would like to have included in the agreements, and indicate their target goals (based on the national targets). Institutions initiate internal discussions to determine their strategic direction in advance of the agreement procedures. One institution indicated that their internal discussions take around a year, and are setup as a bottom up process (from faculty to institutional level). Thirdly, the ministry and the institution negotiate, through a web-based tool, the level of the targets. When the target goals set by the institutions are, in the opinion of the ministry, not challenging enough, several negotiation rounds might be necessary. The ministry is not likely to deviate from the strategic goals it has for the whole

sector (e.g. number of degrees produced). However, institutions do have more influence on the target goals in other areas. Finally, when agreement is reached on the targets, the performance agreement is signed. The agreements are around eight pages long.<sup>65</sup>

The performance agreements allow the Ministry of Education to monitor and compare performance between the Finnish higher education institutions. The indicators on which performance is measured are included in the performance agreements. However, not all the indicators included in the performance agreements are also included in the performance funding model (and vice versa). Consequently, performances on the indicators included in the agreements are not necessarily connected to the level of funding HEIs receive. The connection between the agreements and funding is made with respect to strategic goals (universities) and project funding (polytechnics). These aspects are included in the funding models and further defined in the performance agreements.

To enable the ministry to monitor performance, the HEIs are obliged to deliver information in KOTA, a statistical database maintained by the Ministry of Education. Indicators that are not included in the performance agreements or the funding model are also collected. The statistics are used in the negotiation and monitoring processes. Monitoring by the ministry takes place during the four year agreement period. Based on the monitoring, the ministry annually provides written feedback to the HEIs, which contains information on whether the higher education policy objectives will be met in the agreement period. The feedback is publicly available; everyone can see the performance of a HEI. In addition to the written feedback, the ministry also does site visits to the HEIs, particularly if performances are not as expected. During the site visit, the ministry and the HEI discuss what is to be done to improve performance. The performance agreements are legally binding, but a situation in which the legal characteristics were tested in court has never emerged. The ministry stresses that issues are resolved in dialogue.

### *Polytechnics*

Performance agreements are set between the Ministry of Education, the polytechnics, and their operating organisations (mostly the municipalities). These parties are also involved in the negotiation processes. New agreements were set for the period 2013-2016. For the whole polytechnic sector the 2013–2016 targets are:

- 21,907 polytechnic degrees awarded;
- 1,600 vocational teacher education degrees awarded;
- 2,018 polytechnic Master's degrees awarded;
- 7,475 foreign degree students and 8,830 exchange students (incoming and outgoing, for longer than three months).

The polytechnics' performance indicators for 2013–2016 cover:

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<sup>65</sup> Examples of performance agreements can be found here (in Finnish): [http://www.minedu.fi/export/sites/default/OPM/Koulutus/yliopistokoulutus/hallinto\\_ohjaus\\_ja\\_rahoytus/yliopistojen\\_tulossopimukset/Sopimukset\\_2013\\_-\\_2016/AYO\\_sopimus\\_2013-2016.pdf](http://www.minedu.fi/export/sites/default/OPM/Koulutus/yliopistokoulutus/hallinto_ohjaus_ja_rahoytus/yliopistojen_tulossopimukset/Sopimukset_2013_-_2016/AYO_sopimus_2013-2016.pdf) (university) and here: [http://www.minedu.fi/export/sites/default/OPM/Koulutus/ammattikorkeakoulutus/hallinto\\_ohjaus\\_ja\\_rahoytus/tavoitesopimukset/FUAS\\_2013\\_2016/Laurea\\_Sopimus\\_2013-2016.pdf](http://www.minedu.fi/export/sites/default/OPM/Koulutus/ammattikorkeakoulutus/hallinto_ohjaus_ja_rahoytus/tavoitesopimukset/FUAS_2013_2016/Laurea_Sopimus_2013-2016.pdf) (polytechnic).

- Education:
  - Ratio polytechnic degrees / teaching and research personnel;
  - Percentage of students who have been awarded more than 55 study credits per academic year;
  - Ratio study credits awarded in R&D-projects / students.
- Research / third mission:
  - Ratio publications, public artistic and design activities, audio-visual material and ICT software / teaching and research personnel;
  - Percentage of external R&D-funding in the polytechnic total funding;
  - Percentage of chargeable services in the polytechnic total funding.
- Internationalisation:
  - Ratio staff international mobility / teaching and research personnel.

### *Universities*

Each university and the ministry negotiate the performance agreement at the beginning of every agreement term. The current term is 2013–2016. The agreements are signed for universities by the chairperson of the board and the rector. These parties are also involved in the negotiation process.

Each performance agreement contains institution specific targets. These include quantitative targets, which for the whole university sector in the period 2013–2016 are:

- 14,200 Bachelor's degrees awarded;
- 15,023 Master's degrees awarded;
- 1,635 PhD degrees awarded;
- 8,950 foreign degree students;
- 11,950 exchange students (incoming and outgoing, for longer than 3 months).

The universities' performance indicators for 2013–2016 cover:

- Education:
  - Ratio Masters' degrees/teaching and research personnel;
  - Ratio doctoral degrees/professors;
  - Percentage of students who have been awarded more than 55 study credits per academic year.
- Research:
  - Ratio scientific publications/teaching and research personnel.
  - Percentage of competitive funding from the university total funding
- Internationalisation:
  - Ratio staff international mobility/teaching and research personnel.

### *Experiences, effects and future plans*

The main aims and policy goals behind Finland's use of performance agreements and performance funding relate to:

- Boosting productivity and impact, by which the sector is to catch up to key comparative countries (Puukka, 2014);
- Increasing the performance of the HE-system by enhancing the efficiency, internationalisation, and quality;
- Increasing mutual understanding between the state and HEIs;
- Gaining insights into the performance of HEIs;
- Creating accountability & transparency, by making the agreements and performances public, the funding model gives tax payers insight into what HEIs do with the money.

Although it is difficult to determine the specific influence of the agreements and the funding model, the ministry observes that progress has been made on the set aims and policy goals. HEI leaders are thinking more strategically about their performance and profiling issues, and also using this in their internal management. Similarly, HEIs are more aware of the basic educational processes (e.g. graduation rates) and have a better understanding of costs and resources. Performance steering appears to have contributed to the dialogue between the ministry and institutions and has given the ministry a more holistic overview of the higher education sector. Consequently, the ministry sees the performance funding and agreements as effective steering tools.

The ministry also sees some potential disadvantages of performance steering. Firstly, the performance agreement set targets for four years. During this period it is more difficult to adjust the targets if the aims of the government change. Secondly, institutions might not get all the points they find important included in the agreements. One interviewed institution sees more potential disadvantages: (1) the performance steering sets uniform goals, criteria and solutions, which might not be relevant for institutions with distinct profiles (e.g. art universities); (2) the model leads to competition; (3) the model allows for manipulation; (4) room for profiling of institutions might be affected, and (5) HEIs might look strategically at the national goals, rather than the goals required by the HEI.

Since their introduction (in the 1990s), the performance agreements and performance based funding have not been formally evaluated on a national level. Therefore, it is unclear whether the intended outcomes have been – or are being – attained. However, given that the performance funding was introduced around 20 years ago, and it continues and has over the year been expended to put more emphasis on performance and output, it appears that the Ministry of Education is satisfied with the outcomes. It is important to note that use of performance steering, through performance agreements, is a common practice in the Finnish public sector.

The performance agreements and the funding models have changed over time. Recent adjustments can be seen in light of the government's aim to make the performance agreements lighter, more focussed on the strategic level, and with a stronger performance incentive. Changes are also indicative of a learning process and changes in the availability of data. Examples of recent changes include:

- In the first series of agreements the ministry stated what the HEIs had to do, while currently the targets are more dialogue-based.

- The agreement period went from one (before 1990) to three and currently four years. The latter change was partly to match the parliamentary election cycle, guaranteeing closer integration of the funding to the policy programmes of the newly established government. Increasing the agreement period decreased the administrative burden for institutions.
- The number of performance indicators for universities has decreased from 13 (agreements 2010–2012) to 6 (2013–2016).
- Weighting of indicators has changed to reflect priorities: e.g. for universities funding allocation to internationalisation indicators went from 1% (2010–2012) to 6% (2013–2016).
- Targets for indicators have been adjusted. For example, the target for the percentage of students who attain a certain number of credits per academic year went from 45 (2010–2012) to 55 (2013–2016).

No studies have been undertaken to determine the costs of the development and implementation of the funding models. Nevertheless, it can be assumed that every adjustment in the funding model requires substantial work by the institutions. For example, in terms of collecting the right statistics on adjusted performance indicators, such as the new student feedback system and the publication rating system.

Currently, there is not much opposition to the performance agreements and performance funding. When they were first implemented, it did lead to many discussions. In particular some trade unions and individual staff members were concerned about the strong performance orientation. Overtime, the tools became more embedded and more accepted. Familiarity with the tools and the involvement of representatives from HEIs in the development of the performance steering might have played an important part in the acceptance. The impression is that most stakeholders would argue that the system is good.

Adjustments to the performance indicators in the university funding model have been drafted by a workgroup appointed by the Ministry of Education. Representatives from both universities and polytechnics were included in the workgroup and therefore actively and systematically consulted throughout the development process. To strengthen the quality perspective in the financial items for research and education, three major changes in the funding model have been proposed:

1. Quality of education is to be measured through a student feedback survey. It is proposed that the results determine 3% of the core funding. The student feedback system is planned to start in 2015.
2. It is proposed that the weight of the factor 'number of students who gained more than 55 study credits' should be increased to 12% and the weight of Master's and Bachelor's degrees should be reduced to 14% and 6% respectively.
3. To reward quality in research it is proposed that scientific output should be assessed on the basis of a publication rating system. The system rates peer reviewed scientific publications on different levels, which determines the coefficient. Non-peer reviewed scientific papers, books and publications, publications designed for professional groups and publications intended for the general public are rated with a fixed coefficient, which is substantially lower than the coefficient for the lowest level of peer reviewed scientific publications (0.1 vs. 1).

It is likely that the basic structure of the performance agreements will remain the same after 2016. However, the contents will be adjusted to be in line with the newly elected government's development plan.

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## Germany: North-Rhine Westphalia

### *The German system*

In the German federal system, educational policy is the jurisdiction of the states. In recent decades the division of tasks between the federal and state levels has constantly changed. In the 1980s and 1990s higher education policy was strongly committed to unitary policies – assigning more and more authority to the federal level, culminating in the higher education framework law (*Hochschulrahmengesetz*) issued in 1999. With the beginning of the new millennium this picture changed completely. The federal states regained authority due to two major developments. Firstly, in 2006 a reform of the federal system moved authority to steer higher education back to the states. A constitutional amendment re-regulated the legislative competencies of the federal level and the federal states. As a result of this the federal state governments gained sole responsibility for higher education legislation. The federal level<sup>66</sup> only controls access to higher education and degrees in higher education. Secondly, decisions taken by the Federal Constitutional Court supported decisions to restore the federal states as the authorities steering higher education.

One of the consequences is that the federal states bear responsibility for funding higher education as well as maintaining and building the higher education and research infrastructure. To balance the additional financial burdens, there have been several agreements between the federal level and the federal states, e.g. the federal level (the *Bund*) still partly funds the construction of buildings in higher education. Among these agreements is the Higher Education Pact 2020, which primarily aims to support higher education institutions in tackling the increasing number of students that are expected to enter university until 2020.<sup>67</sup> In the first phase (2007-2010) the Higher Education Pact should have funded 91,370 additional new entrants to higher education, but the actual number of new entrants has exceeded the expected number by nearly 100%. In 2009, the Higher Education Pact was prolonged for a second programme phase. From 2011 until 2015, the Bund in cooperation with the states will fund another 275,000 additional new entrants to higher education (13,000 Euros per student for a four year period are funded by the Bund - in total about 26,000 Euros for each additional new student will be invested). The funding for students that entered higher education between 2007 and 2010 will also be continued. In total the Bund will invest about 4.9 billion Euros in this second phase.

With their 'new' autonomy, the higher education policies of the federal states have developed in different ways. All federal states have withdrawn from detailed steering of higher education institutions. Most of the federal states have given full legal autonomy to the universities, in some of the federal states even by changing their legal status. The "*Hochschulfreiheitsgesetz*" of North-Rhine Westphalia for example allows universities to become bodies under public law (*öffentlich-rechtliche Körperschaften*) with significant autonomy in their financial, personal and organisational decisions. Nonetheless, the federal state governments still remain the main funders of universities. For the allocation of funds they use different steering instruments and mechanisms. Most of the federal states exercise a performance oriented distribution of funding, the so-called "*leistungsorientierte Mittelvergabe*", which includes instruments such as contract steering, performance agreements or

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<sup>66</sup> Though the Framework Law is not applied anymore it is still not abolished. The Bundestag still has to decide on a law that will abolish the Framework Law.

<sup>67</sup> In its first phase the higher education pact also aimed at strengthening the research capacities of universities. For research grants an additional allowance of 20% was awarded to fund the full costs of a research project.

lump sum funding, though there are certain nuances in the implementation of these instruments. The funding models of North-Rhine-Westphalia and Thuringia will be described in more detail below.

### ***The NRW system***

North-Rhine Westphalia (NRW), the largest of the 16 German federal states in terms of inhabitants, has a diverse and extended institutional landscape in higher education. In 2014, there were 14 public universities, 16 public universities of applied science, seven art and music universities, 30 accredited private and theological higher education institutions and five higher education institutions for public administration (civil servant training that is not under the auspices of the Ministry of Innovation, Science and Research).<sup>68</sup>

In the winter term 2013/2014 about 694,000 students were attending these higher education institutions. The majority of them were enrolled at universities (58%) and at universities of applied sciences (29%).<sup>69</sup> Universities and universities of applied science offer study programmes for bachelor and master degrees. Only universities are allowed to offer doctoral training and award doctoral degrees. Both public universities and public universities of applied sciences are autonomous legal bodies with significant autonomy over financial, personal and organisational matters.<sup>70</sup>

In addition to these higher education institutions, an extended landscape of public research institutes has been established. Around 60 public research institutes, mostly managed by the major scientific societies (Max-Planck-Society, Fraunhofer-Society, Leibniz-Society and Helmholtz-Society), are located in North-Rhine Westphalia.

Some of the NRW universities have been successful in the Excellence-Initiative: The universities of Aachen and Cologne are funded in under 'future concepts', and about 10 'clusters of excellence' and five 'graduate schools' have been established at different universities.

The public higher education sector is currently regulated by the "*Hochschulfreiheitsgesetz*" (law for the autonomy of higher education). From 1<sup>st</sup> of October 2014 the '*Hochschulzukunftsgesetz*' (law for the future of higher education), which was recently passed by the parliament, will be effectuated. This law applies to all public universities and public universities of applied sciences in North-Rhine Westphalia.

### ***The policy context***

Several reforms of the higher education system of NRW have been implemented over the last fifteen years. These are laid down in several higher education acts (2000, 2004 and 2006). The 2006 Act ("*Hochschulfreiheitsgesetz*") intended to enhance institutional autonomy – building on the acts of 2000 and 2004 – make the NRW system more competitive (internationally) and encourage institutions to develop distinctive profiles. A more differentiated system is one of the main aims. This process that among is affected by, among other things, the well-known Excellence Initiative. Further, this Act introduced an accreditation system, adapted quality assurance systems and changed the internal governance structures of higher education institutions, e.g. by the establishment of a board of trustees.

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<sup>68</sup> <http://www.wissenschaft.nrw.de/studium/informieren/studienland-nrw/>

<sup>69</sup> Destatis, Schnellmeldeergebnisse Wintersemester 2013/2014.

<sup>70</sup> Section 2 of Hochschulzukunftsgesetz, <http://www.landtag.nrw.de/portal/WWW/dokumentenarchiv/Dokument/MMG16-103.pdf?von=1&bis=0>

Since 2012 the Ministry for Innovation, Science and Research has been working on a new higher education bill, the so-called *Hochschulzukunftsgesetz* (law for the future of higher education). This bill just passed the parliament and was implemented in October 1<sup>st</sup>, 2014.

According to the ministry, enhanced institutional autonomy has positively contributed to the performance of the system, but at the same time the ministry perceives some downsides. Their main critique of is that the 2006 Act does not lead to transparency as regards the actual performance and use of funding by the institutions. Moreover, the NRW institutions do not only compete with institutions from other (German) states, but also among themselves ('cannibalism'). And it is believed the institutions do not pay enough attention to the national goals. Therefore, the new bill proposes to limit institutional autonomy – a change that is welcomed by academics (who complain about micro-management by their institutional leaders) but certainly not by institutional leaders. As a result, the institutional leaders have refused to sign the latest performance agreements (see below).

Replacing the *Hochschulfreiheitsgesetz* with the *Hochschulzukunftsgesetz*<sup>71</sup> will create the following changes:

- The law requires higher education institutions to report on the spending of their basic funding. According to section 5 no. 2 of the new act, higher education institutions have to introduce a new financial control system, including making public some costs such as salary costs for university management.
- A new steering instrument, the '*Rahmenvorgabe*' (in the following: framework), is to be implemented on the level of the federal state for issues regarding personnel, economic and budget affairs. This framework will contain regulations that are mandatory for the higher education institutions but will be formulated in consultation with the higher education institutions.
- The *Landeshochschulentwicklungsplanung* (NRW higher education development plan), another new steering instrument, is a supra regional instrument intended to ensure well-balanced regional provision of higher education study programmes and disciplines, adequate consideration of the demands of students, efficient utilisation of capacities and well-balanced establishment of research capacities. Higher education institutions have to build on this development plan when they formulate their development plans.
- The new law also creates the possibility of penalising higher education institutions if they do not meet the agreements made in the performance contracts (section 6, no. 3 *Hochschulzukunftsgesetz*). Details on penalties will be laid down in the performance contracts (*Hochschulverträge*) between the ministry and the higher education institution.
- Regarding the internal governance of higher education institutions, the *Hochschulzukunftsgesetz* re-strengthens the role of the senate; the senate will participate in the election of the managing board of the higher education institutions. The board of trustees, mainly external members, will have more responsibility for controlling the expenditure of universities. A new governing body, the so-called '*Studienbeirat*', consists of student representative bodies that will participate in the compilation of study and examination regulations.

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<sup>71</sup> Gesetz über die Hochschulen des Landes Nordrhein-Westfalen (Hochschulgesetz - HG), Retrieved from: [https://recht.nrw.de/lmi/owa/br\\_bes\\_text?anw\\_nr=2&gld\\_nr=2&ugl\\_nr=221&bes\\_id=28364&menu=1&sg=0&aufgehoben=N&keyword=hochschul#det320306](https://recht.nrw.de/lmi/owa/br_bes_text?anw_nr=2&gld_nr=2&ugl_nr=221&bes_id=28364&menu=1&sg=0&aufgehoben=N&keyword=hochschul#det320306)

- Central regulations for study will be adjusted to better meet students' requirements with respect to part-time study programmes and attendance. Higher education institutions are also 'invited' to offer more online teaching and learning. Further, to cope with an increasingly diverse student body 'diversity management' must be implemented.

In the remainder of this text the funding system and performance agreements will be described as they have been under the 2006 *Hochschulfreiheitsgesetz*, since the legislative changes are very recent and to date there is no information available on the potential changes in the funding of higher education institutions in NRW.

### **The funding model**

The 2006 *Hochschulfreiheitgesetz* (section 6) stipulates the funding model, based on performance agreements. Public funding is provided by the Ministry of Innovation, Science and Research through performance agreements (*'Ziel- und Leistungsvereinbarungen'*), as a subsidy that is transferred to the assets of the higher education institution. The law itself does not include detailed rules on the funding formula; these are included in a different regulation that can be more easily adapted to the current needs of the higher education system.

The public grant consists of two parts: the basic grant (approx. 77% in 2013) and a performance-related grant (23% in 2013). The performance budget (the so-called *Leistungsorientierte Mittelvergabe*) differs for universities and universities of applied sciences (UAS). Since 1999 one part of the higher education budget has been distributed in accordance with performance on a set of performance indicators. The indicators used for the performance budget have varied and have included graduates, doctoral graduates, third party funding, academic staff, new entrants, and female professors. Indicators have been changed based on the ministry's experiences. In 2007 for example, the number of indicators was reduced from five to three (focussing on the areas of teaching, research and gender equality) in order to simplify the funding model. Political and societal debates have also influenced the use of performance indicators.<sup>72</sup>

The current performance funding model distributes 23% of each institution's basic grant based on performance indicators, so that the amount for each institution is proportional to the whole budget the institution receives. The current performance indicators and the percentage of funding that is dependent on each indicator are shown in the following table.

**Table: Distribution of performance budget**

Indicators	Universities	Universities of Applied Sciences
Graduates	50%	75%
Third party funding	40%	15%
Share of female professors	10%	10%

<sup>72</sup> One example is the abolishment of the indicator "PhD graduates" in 2012, which was used from 1995 until 2012. In 2011, a debate about plagiarism in academia was started because of a political affair around the former German Defence Minister Karl-Theodor zu Guttenberg who plagiarised parts of his PhD dissertation. More about the Guttenberg plagiarism affair can be found here: <http://www.spiegel.de/thema/wissenschaftsplagiate/>

Half of the performance budget for universities depends on the numbers of graduates; for UAS this is 75%. The number of graduates is weighted by discipline, study length, and degree type. The second part of the performance budget concerns third party income, - 40% of the performance budget for universities and 15% for UAS. Different weightings are used, based on discipline (with distinctions between humanities and social sciences, sciences, and engineering). External income earned at the central level of the universities is part of this performance component. The third component of the performance budget concerns the gender composition of professorships. This component ('*Gleichstellung*', percentage of female (junior) professors) makes up 10% of the performance budget.

According to the ministry, four billion Euros per year should be available for the basic budget until the end of 2015.<sup>73</sup>

### **Performance agreements**

The ministry signs a target and performance agreement with each of the institutions. The performance agreements cover a period of two years for both universities and universities of applied sciences. Through the negotiation process the goals and targets are specified and institutions have the opportunity to stress the areas where they want to profile themselves further.

The negotiations for the fifth round of performance agreements (2014–2015) took place in autumn 2013 between the ministry (on the level of heads of units) and the managers of the higher education institutions. However, the universities did not sign the last generation of performance agreements<sup>74</sup>. When the new law (*Hochschulzukunftsgesetz*) was drafted by the ministry, the universities foresaw a change in the framework conditions. The impact of the new law on performance agreements was not clear. Because of this uncertainty, they collectively decided not to sign the performance agreements for 2014–2015.

The performance agreements deal with research, teaching, gender issues, internationalisation, and institutional profiling and the multiannual financial public budget. The multiannual character is meant to contribute to stability and predictability. The table of contents of the fourth generation of agreements is the same for all the institutions.<sup>75</sup> On average each agreement is about forty pages long and contains both general and concrete agreements. The topics covered are: institutional profile, public budget, teaching (number of students per discipline, the intake capacity of institutions for new entrants, *Hochschulpakt*<sup>76</sup> agreements, quality assurance, capacity for teacher training, supply for 'non-traditional' students), research (collaboration, profiling, PhDs, third party research), valorisation,

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<sup>73</sup> There is no detailed data on the expenditures for the basic budget and the performance budget available. The official data on higher education finances are organised into very different categories. The annex to this chapter gives a general overview on the income and expenditures of higher education institutions in North Rhine-Westphalia.

<sup>74</sup> NRW-Universitätsleitungen nehmen Stellung zum Hochschulzukunftsgesetz, Pressemitteilung, Retrieved from: <http://www.lrk-nrw.de/lrk/aktuelles/pressemitteilungen/381-12022014-nrw-universitaetsleitungen-zum-hochschulzukunftsgesetz.html>

<sup>75</sup> The target and performance agreements can be found here:

<http://www.wissenschaft.nrw.de/hochschule/hochschulen-in-nrw/ziel-und-leistungsvereinbarungen/>

<sup>76</sup> The number of (potential) enrolments has doubled for some years because of a structural change in the system of upper secondary education. To regulate this substantial but incidental increase the *Hochschulpakt* (I and II) has been established, by means of bilateral contracts that are part of the target and performance agreements.

(patenting, collaboration), gender issues, internationalisation (collaboration, mobility of students and staff), linkages with upper secondary education, infrastructure and delivery of information and data.

### *Experiences and effects*

Performance agreements were introduced as an instrument to offer financial support for institutions for profiling as well as to stimulate the achievement of the state of NRW's strategic goals. They aimed to foster dialogue between the institutions and the state in a structured and transparent way<sup>77</sup>.

Performance based funding has a history in NRW, *leistungsorientierte Mittelvergabe* has existed for more than 20 years. Evaluations suggest that there are no direct effects between the performance of institutions and the 'traditional' indicators used for distributing the budget (graduates, doctoral graduates and third party funding). Third party funding of institutions has increased in recent years, but there is no evidence that this increase is the result of performance-based funding. In 2013, investigating the effects of performance-based funding in NRW, the *Hochschul Informations System GmbH* (HIS) concluded that incentives seem to have a fairly low impact on actual performance, partly because the volume of the performance-based funding is rather limited (HIS, 2013).<sup>78</sup> As a result, the incentives do not contribute to better performance.

Transparency appears to be increased, since the individual performance agreements are published on the website of the ministry. This means that the institutions are able to see their peer institutions' levels of resources. The idea is to include information on financial resources in future performance agreements, which would further increase transparency. Another advantage mentioned (in the expert interviews) could be that the budget distributed through performance agreements is less subject to politicised discussions between the Ministry of Innovation, Science and Research and the Ministry of Finance. This would give institutions some planning predictability, which institutions believe would be an improvement.

The introduction of performance agreements has also had an impact on policy making inside the institutions, which is also mentioned as an improvement. Institutions started internal discussions on what this new instrument actually meant for them and they became more engaged with the different areas laid down in the agreements. Generally speaking, these were valuable discussions for the establishment and implementation of institutional strategies. The HIS-evaluation of performance-based funding in NRW also reported that the performance agreement contributed to changes in the internal allocation of funds. Institutions have started to establish internal allocation procedures that use similar regulations or instruments (HIS, 2013).

However, the performance agreements have also attracted criticism. The performance agreements were seen as rather general and did not result in real individual agreements, because the ministry fixed the framework conditions; they were not negotiable. The performance agreements dealt with topics that were the same for all institutions, which does not promote the individual institutional profiling. When institutions are supposed to respond to the same goals, it is likely that homogeneity instead of heterogeneity will be the result (see also HIS, 2013).

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<sup>77</sup> Müller, U. and Ziegele, F. (2003). *Zielvereinbarungen zwischen Hochschulen und Staat in Nordrhein-Westfalen: Erfahrungen und Zukunftsperspektiven*. Arbeitspapier, Nr. 45, Centrum für Hochschulentwicklung gGmbH.

<sup>78</sup> In der Smitten, S. and Jaeger, M. (2013). *Stellungnahme Hochschulsteuerung durch Leistungsorientierte Mittelvergabe in NRW, Stellungnahme zur öffentlichen Anhörung des Ausschusses für Innovation, Wissenschaft und Forschung des Landes Nordrhein-Westfalen am 3. Juli 2013*, Hochschul Informations System GmbH.

The model of performance-based funding also has been criticised for establishing “winners and losers” among higher education institutions without considering the quality of research, teaching and learning. In this context the HIS-evaluation (HIS, 2013) refers to the ‘closed system’ of reallocation of funds: the performance-based funding is capped, meaning that the losses of some institutions are the gains of others (it can be argued that this is exactly what performance-based funding is about). In addition, performance improvement might not lead to a higher budget if other institutions are performing even better (loss of the stimulus/incentive).

A final worry concerns the emphasis on quantities instead of qualities. Getting the numbers right (achieving quantified targets) may be achieved at the expense of quality (e.g. overuse of capacity, worsening of student-staff ratio). Using more qualitative indicators would however increase the complexity of the funding model.

## Germany: Thuringia

### *The system*

The federal state of Thuringia has a binary higher education system. More than 50,000<sup>79</sup> students study at twelve higher education institutions. There are five universities, four universities of applied sciences, two universities of cooperative education (providing tertiary education with a strong focus on practical experience) and one state-recognised private university of applied sciences specialised in health care<sup>80</sup>. The system comprises both comprehensive and specialised institutions.

There are two higher education acts in Thuringia: the *Higher Education Act for Thuringia* (ThürHG 2006) and the *Higher Education Act for Universities of Cooperative Education* (ThürBAG 2006). The ThürHG sets out the legal framework for the public and private universities and universities of applied sciences (UAS), whereas the ThürBAG sets the legal basis for the universities of cooperative education. This chapter will focus only on the nine public higher education institutions - universities and universities of applied sciences - since performance-based funding and performance agreements are not applicable to the universities of cooperative education or the private university of applied sciences.

### *The policy context*

Since the fall of the wall in 1989 the population of Thuringia has been ageing and birth rates are low<sup>81</sup>. These demographic changes, which result in lower numbers of potential students, have been one of the main reasons to reform higher education. The higher education institutions in Thuringia have undergone a range of reforms in recent years. The Bologna structure of Bachelor and Master has been implemented and the study programmes offered have been revised and optimised in line with the need for more highly skilled employees<sup>82</sup>.

The ministry and the higher education institutions in Thuringia agreed an implementation programme for the Higher Education Pact 2020 to establish a higher education institution course offering that is adjusted to current societal demands<sup>83</sup>.

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<sup>79</sup> Thüringer Landesamt für Statistik. *Studierende insgesamt im Wintersemester nach Hochschularten, Hochschulen und Fächergruppen in Thüringen*. Retrieved from: <http://www.statistik.thueringen.de/datenbank/TabAnzeige.asp?tabelle=nt001313%7C%7CStudierende+insgesamt+im+Wintersemester+nach+Hochschularten%2C+Hochschulen+und+F%E4chergruppen&startpage=hs500&csv=&richtung=&sortiere=&vorspalte=0&tit2=&TIS=&SZDT=&anzahlH=6&fontgr=12&mkro=&AnzeigeAuswahl=&XLS=&auswahlNr=&felder=0&felder=1&felder=2&felder=3&felder=4&felder=5&zeit=2012%7C%7Cws>

<sup>80</sup> Freistaat Thüringen. *Studienland Thüringen*. Retrieved from: <http://www.thueringen.de/de/hochschulen/uebersicht/>

<sup>81</sup> Berthold, C. and Leichsenring, H. (2009). *Demographische Entwicklung und Hochschulen – Pilotprojekt Thüringen*. Berlin: CHE Consult GmbH.

<sup>82</sup> Freistaat Thüringen. Thüringer Ministerium für Bildung, Wissenschaft und Kultur. *Hochschulstrategie Thüringen 2020*. Retrieved from: [http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/hochschulstrategie\\_thueringen\\_2020.pdf](http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/hochschulstrategie_thueringen_2020.pdf), p. 73

<sup>83</sup> Thüringer Ministerium für Bildung, Wissenschaft und Kultur. Retrieved from: [http://www.thueringen.de/th2/tmbwk/wissenschaft/hochschule\\_und\\_studium/hochschulentwicklung/hochschulpakt2020/](http://www.thueringen.de/th2/tmbwk/wissenschaft/hochschule_und_studium/hochschulentwicklung/hochschulpakt2020/)



In its higher education strategy 2014–2020 the Thuringia Ministry of Education, Science and Culture outlines five main guidelines:

- ‘Higher education should be developed in dialogue’. Here framework agreements and performance agreements (see below) play an important role as they are based on the dialogue between the higher education institutions and the ministry.
- ‘Knowledge as a resource’, which means that Thuringia relies on a strong and well-performing university system to enable it to be a competitive location for industry and services.
- The higher education institutions should be accessible and open, to uphold the principle of equality while attracting new talent to higher education.
- Research profiles and the capability to innovate should be strengthened.
- The higher education institutions of Thuringia are seen as a system, whose structures should be strengthened strategically, i.e. profiling the individual institutions while also achieving an overall well-balanced system.

To establish a higher education system that is diverse, complete and complementary<sup>84</sup>, the ministry wants the institutions to profile themselves. The overarching goal is to develop an integrated system that is competitive both nationally and internationally, where each institution has its own niche, which follows the recommendations of the German Council of Science and Humanities<sup>85</sup>.

With respect to teaching, learning and internationally-oriented research, universities should concentrate on three to five areas. Universities of applied sciences should focus on two to three areas to strengthen their teaching and applied research portfolios and cooperate with regional partners. For both universities and universities of applied sciences, the ministry requests more cooperation in the areas of teaching and learning, research, administration and scientific infrastructure. Cooperation should be supra-regional with higher education institutions cooperating in small study programmes in the fields of humanities, sciences and engineering (to achieve critical mass). Furthermore, the ministry requests more cooperation platforms and joint centres between universities and universities of applied sciences, as well as with other research institutions, to set up joint study programmes and initiatives such as graduate schools.

### *The funding model<sup>86</sup>*

In the past decade the funding models for higher education in Thuringia have been changed several times. There was the so-called performance-based model (2003–2007), the load-oriented model (2008–2011) and currently (2012–2015) the “cost and performance-based overall funding” (abbreviated as KLUG) model is in use.

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<sup>84</sup> Freistaat Thüringen. Thüringer Ministerium für Bildung, Wissenschaft und Kultur. *Hochschulstrategie Thüringen 2020*. Retrieved from: [http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/hochschulstrategie\\_th\\_ringen\\_2020.pdf](http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/hochschulstrategie_th_ringen_2020.pdf), p. 44-55.

<sup>85</sup> Wissenschaftsrat. (2010). *Empfehlungen zur Differenzierung der Hochschulen*. Lübeck: Drs. 10387-10.

<sup>86</sup> For a detailed overview of the higher education budget 2012-2015, including regulations, indicators and weighting factors see: *Mittelverteilungsmodell. KLUG-Thüringen-2012 (Kosten- und leistungsuntersetzte Gesamtfinanzierung)*:

[http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/klug-th-03-2013-ver\\_ffentlicht.pdf](http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/klug-th-03-2013-ver_ffentlicht.pdf)

The KLUG model consists of three pillars: the core budget, the performance-based budget and a 'general, design and innovation budget' (Allgemein-, Gestaltungs- und Innovationsbudget). An overview of the public budget for the nine HE institutions, divided between the pillars, is shown in the table below.

**Table: KLUG budget 2012-2015 in Euros x 1000 and percentages**

	2012	%	2013	%	2014	%	2015	%
<b>Total KLUG budget €</b>	321.450	100	331.500	100	334.950	100	338.500	100
<b>Higher education budget:</b>	303.950		313.000		316.450		320.000	
- core budget	257.160	80.0	265.200	80.0	267.960	80	270.800	80
- performance budget	46.790	14.5	47.800	14.4	48.490	14.5	49.200	14.5
<b>General, design and innovation budget</b>	17.500	5.4	18.500	5.6	18.500	5.5	18.500	5.5

The total public budget for higher education consists of 80% core budget, about 14.5% performance budget and about 5.5% for the third pillar. The general, design and innovation budget is regarded as an additional budget (redistribution fund): it is allocated according to separate agreements (see below).

The core budget is based on three indicators:

- Number of students in the standard period of study (62,5% of core budget);
- Number of graduates ( 22,5%) and
- Share of third party income related to total third party income from all Thuringian higher education institutions (15%).

The indicators for the core budget are weighted according to type of institution, type of programme, and type of discipline.<sup>87</sup> With respect to the third indicator for example, third party income for Mathematics is weighted 1.0, while for Romance Studies this factor is 2.5.

The performance budget is the result of five indicators, described in the Higher Education Act. They are:

- Share of the total number of students in the standard period of study in the system (35% of the performance budget);
- Share of the total number of doctoral graduates and PhD degrees awarded in the system (30%);
- Share of the total number of female students in the system (12,5%);
- Share of the total number of female professors in the system (12,5%);
- Share of the number of students in continuing education in the system (10%).

In calculating the performance budgets the size of the institution is taken into account.

To avoid large fluctuations, maintain continuity, give some planning predictability, and control the overall budget (the total budget to be spent is a capped), the ministry uses minimum and maximum

<sup>87</sup> Freistaat Thüringen. Thüringer Ministerium für Bildung, Wissenschaft und Kultur. *Hochschulstrategie Thüringen 2020*. Retrieved from: [http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/hochschulstrategie\\_th\\_ringen\\_2020.pdf](http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/hochschulstrategie_th_ringen_2020.pdf), p.37.

thresholds (*Mindestgrenze und Kappungsgrenze*) based on the previous year.<sup>88</sup> This minimum threshold for the core funding is 1% annually (an institutional budget cannot shrink by more than 1% per annum – this means a maximum loss of 4% over the four-year period). The minimum threshold for the performance budget is 2% annually. The maximum increase in budgets works by and large in the same way, although here a difference is made between institutions with “high” or “low” budgets (the cut-off point is 25 million Euros). The result of this “win and loss” calculation flows into the third pillar budget (General, Design and Innovation budget).

General, Design and Innovation budget should be regarded as a strategic, project-based funding component as well as a redistribution fund. As such, it is not based on institutional performance. This “strategic” funding component has three parts:

- The general “performance” fund (€10 million of the €17.5 million per year) is intended to facilitate 1) inter-institutional projects, 2) vocational training at higher education institutions, 3) continued employment of vocationally trained staff, 4) co-financing joint federal and state-government programmes and lastly a contingency fund for rectors.
- The redistribution fund, see above (about €2,5 million).
- The structure and design fund (about €5 million) finances innovative projects in the areas of teaching, research, promotion of new talent, gender equality, internationality or administration. Supportive structural measures and projects are financed as well as projects in the areas of applied research and artistic development. The budget from this fund is allocated by the Thuringian Ministry of Education, Science and Culture either 1) as a lump-sum, 2) based on a proposal by an institution, 3) as part of the target and performance agreements or 4) based on competitive selection.

### ***Performance Agreements (Rahmenvereinbarung and Ziel- und Leistungsvereinbarung)***

The *Higher Education Act for Thuringia* stipulates that there is a framework agreement and bilateral performance agreements between the state and the institutions. In 2003, the first Framework Agreement I (2003–2007) (*Rahmenvereinbarung I*), and the associated performance-based funding model (see above), was published. The third Framework Agreement is currently running (Framework Agreement III 2012–2015, with the KLUG funding model 2012–2015).

The Framework Agreement, a thirteen page document, is a joint four-year agreement between the state and the nine public higher education institutions.<sup>89</sup> It is signed by the Minister of Education, Science and Culture, the Minister President, the Minister of Finance and the presidents of the higher education institutions. This framework agreement is intended to secure stable funding and sustainable structural development of the state’s higher education landscape. As such it functions as the operational basis for institutional goal setting and development planning. It consists of two parts. The first part is the statement about the public budget made available to the institutions for four years.

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<sup>88</sup> Freistaat Thüringen. Thüringer Ministerium für Bildung, Wissenschaft und Kultur. *Mittelverteilungsmodell. KLUG-Thüringen-2012 (Kosten- und Leistungsuntersetzte Gesamtfinanzierung)*. Retrieved from: [http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/klug-th-03-2013-ver\\_ffentlicht.pdf](http://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/klug-th-03-2013-ver_ffentlicht.pdf)

<sup>89</sup> [https://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/rahmenvereinbarung\\_iii\\_text.pdf](https://www.thueringen.de/imperia/md/content/tmbwk/wissenschaft/hochschulentwicklung/rahmenvereinbarung_iii_text.pdf)

These budgets are allocated through the funding model described above. The second part of the Framework Agreement describes the key objectives for the sector (institutional performance in return for the public budget). The current agreement has the following key objectives:

- Further develop the attractiveness of study programmes offered, particularly those offered to disadvantaged groups;
- Ensure good study conditions and further implementation of the Bologna process;
- Improve the attractiveness of and offer better promotion of study programmes;
- Support for international and national excellence;
- Intensify cooperation between higher education institutions, research institutes and industry;
- Promote new talent;
- Improve conditions for and numbers of female students, researchers, PhD candidates and professors.

For the institutions this means they need to focus on:

- Implementation of the commitments in the Higher Education Pact 2020;
- Further implementation of the Bologna process reform and optimisation of study structures and study programmes offered;
- Qualitative and quantitative improvement in study grants;
- Implementing of the new dialogue orientated service procedure for student admissions;
- Participation in national and international excellence initiatives;
- Ensuring quality through (re)accreditation of Bachelor and Master programmes as well as feedback loops with the labour market and alumni;
- Continuing involvement in structural and development planning of the higher education sector.
- With regard to profiling higher education institutions will have to:
  - Further cooperate in the areas of: patent system, start-up networks, gender equality, higher education marketing and institutional accounting;
  - Improving the quality of teaching, research and further education;
  - Intensifying technology transfer;
  - Promoting new talent, the advancement of females in higher education and internationalisation of higher education.

The agreement further stipulates that at least once a year the state and the institutions should discuss the framework with the intention of securing consensus.

Based on the Framework Agreement, the president of each higher education institution concludes a four-year performance contract ( "*Ziel- und Leistungsvereinbarung*") with the Minister of Education, Science and Culture. The ministry and the institution negotiate the targets for the institution. These targets (largely) overlap with the goals set in the Framework Agreement (numbers of students and graduates in certain fields, quality assurance process of research and teaching, promotion of new talent, technology transfer, acquisition of third party funding, fulfilling the gender equality pact, cooperation with national and international research institutes, universities, and industry).

If no agreement on targets is reached (an institution disagrees with the performance targets suggested), the ministry can determine the institutional targets after having heard the institution's arguments. There are different actors from different levels involved in negotiating the performance agreements. From the side of the institutions, institutional management negotiates with the ministry. The university council and the university senate have to give a statement on the performance agreements once they are concluded.<sup>90</sup>

The bilateral performance agreements, about 30 to 40 pages long, have a number of chapters. These are:

- An overview of the qualitative and quantitative institutional goals, derived from the strategic areas of the FAIII;
- On the individual goals and planned measures to achieve these goals;
- On investments in buildings and large scale investments;
- On finances and human resources;
- On quality assurance, transparency and information measures.

The performance agreement ends with provisions regarding the duration of the contract and a planned evaluation of the current agreement and further development of a new agreement. The consequences of not meeting the targets are described in general terms. If a target has not been met, the institution has to explain why this has been the case and what the institution has done to achieve the goals and targets. The Ministry of Education, Science and Culture can decide to reclaim the funding as well as deprive the institution of agreed funding in the future.

For the former generation of performance agreements (2008–2011) there were no instances where the ministry reclaimed funding or deprived the institution of agreed funding. Theoretically, institutions can be sanctioned through the performance budget since this is based on performance indicators from the former period. The performance budget is distributed through a competitive procedure where the funds are distributed between all institutions and a minimum and maximum threshold are applied, as described above. So the losses and gains are dependent not only on the performance of the institution itself, but on the performance of other institutions as well.<sup>91</sup>

The following performance indicators are used in the current bilateral performance agreements:

- New entrants (first semester);
- Students in standard period of study;
- Students in continuing education;
- Graduate numbers;
- PhD graduates (excluding medical students) (universities only);
- Third party funds per professor;
- Percentage of female professors;
- Percentage of female academic staff;
- Percentage of female PhD candidates;
- Percentage post-doctoral candidates;

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<sup>90</sup> In der Smitten, S. and Jaeger, M. (2012). *Ziel- und Leistungsvereinbarungen als Instrument der Hochschulfinanzierung. Ausgestaltung und Anwendung*. Hannover, HIS: Forum Hochschule, p.11-13.

<sup>91</sup> In der Smitten, S. and Jaeger, M. (2012). *Ziel- und Leistungsvereinbarungen als Instrument der Hochschulfinanzierung. Ausgestaltung und Anwendung*. Hannover, HIS: Forum Hochschule, p.68.

- Percentage of international new entrants (first subject-related semester);
- Percentage international students;
- Percentage international graduates.

Higher education institutions have to report on their performance in their annual report.

## Hong Kong

### *The system*

The Hong Kong higher education system is based on the British model. There are nineteen degree-awarding higher education institutions. Nine institutions are publicly funded, ten are self-financed. Additionally, the higher education system contains other post-secondary institutions, such as community colleges, offering locally-accredited full-time sub-degree courses.

Eight HEIs<sup>92</sup> are publicly funded by the University Grants Committee (UGC), an intermediary body appointed by the government of Hong Kong.<sup>93</sup> These public institutions are statutorily autonomous corporations; they are autonomous with respect to selection of staff, selection of students, curricula and academic standards, acceptance of research programmes, and allocation of funds within the institution.

Each public HEI is expected to have a unique role, based on its strengths. The institutions' missions are described in their so-called role statements, which have been approved by the UGC. Two universities have profiled themselves as having more of an applied role (they are the two former polytechnics); two institutions have comprehensive research-led roles; one has a narrower research-led role; one is a small liberal arts university, while another has a liberal arts focus; and one is an Institute of Education – a teacher training college.

It is the government's policy to support the parallel development of the publicly-funded and self-financing post-secondary education sectors. The self-financing sector plays an important role in broadening opportunities and choices within further education, thereby providing quality, diversified and flexible pathways with multiple entry and multiple exit points for school leavers. The self-financing sector also helps diversify the higher education sector and is conducive to Hong Kong's further development as a regional education hub. The self-financing sector plays a role in upgrading the quality of the human resources in Hong Kong by offering a wide array of continuing and professional education and lifelong learning opportunities for the workforce and the community at large.

The various HEIs offer the following degrees:

- Sub-degrees: associate degrees and higher diplomas, normally two-year programmes;
- Undergraduate degrees, normally four-year programmes;
- Taught postgraduate degrees: Master's and postgraduate programmes, normally one to two-year programmes; professional doctoral programmes take at least one year.
- Research postgraduate degrees: Master of Philosophy and PhD programmes, normally two-year programmes and three to four-year programmes respectively.

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<sup>92</sup> The Hong Kong Academy for Performing Arts is publicly funded but not through the UGC.

<sup>93</sup> The two main functions of UGC are: (1) to provide impartial and expert advice to the Government on the funding and development of higher education and (2) to assure the standards and cost-effectiveness of the operations and activities. Furthermore, the Quality Assurance Council (QAC) and the Research Grants Council (RGC) is placed in the aegis of UGC. Consequently, the UGC is involved in numerous activity areas (including academic development and knowledge transfer).

### *The policy context*

Every six to seven years the UGC reviews the system and provides recommendations to the government. In its latest report the UGC said (University Grants Committee, 2010):

- The expansion of the HE sector resulted in a fragmented and complex system with a degree of incoherence and duplication. More integration, also through educational policies, is needed.
- Stronger oversight of the self-financed higher education sector is needed.
- Quality assurance is too fragmented, and should be more integrated.
- The UGC-funded institutions should develop clear internationalisation strategies, as well as strategies for collaborating with mainland China.
- The funding regime should reinforce role differentiation of institutions.
- The UGC-funded institutions should put a stronger focus on the quality of teaching and learning, which in turn should be properly assessed and rewarded.
- Because the UGC-funded institutions have developed their research capacities and identified areas of excellence, a more competitive funding regime can be implemented.

In recent decades several reforms have taken place, such as:

- Widening access by encouraging institutions to offer sub-degrees and granting opportunities to self-financed (private) institutions;
- Increasing the length of undergraduate degrees from three to four years, from September 2012 onwards;
- Research funding reform and revision of funding per student;
- Stronger focus on internationalisation;
- Hong Kong developing as a regional education hub.

Underlying these reforms are the government's aim to establish a knowledge based economy in Hong Kong and its ambition to become a global hub with a key role for education (Hong Kong as the education hub of the region; University Grants Committee, 2004). To accomplish these aims the government wanted to tighten its grip on the higher education sector, by introducing, amongst other things, the Research Assessment Exercise, the Teaching and Learning Quality Process Review and the Management Review (see Currie, 2008). In this changed policy context, measures to enhance performance, competition, efficiency and accountability were introduced.

### *The funding model for the public universities*

The public funding provided by the UGC consists of capital grants, recurrent grants and a matching grant scheme.

Capital projects carried out by institutions to maintain and improve buildings and property are supported by capital grants provided by the government on an annual basis through two avenues, the Capital Works Programme (for projects costing more than HK\$21 million)<sup>94</sup>, and the Alterations, Additions and Improvements (AA&I) block allocation (for projects less than HK\$21 million). The two avenues are characterised by a double-approval process through which all projects are vetted by the UGC and then the selected ones are put forward to the legislature to seek funding. For Capital Works

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<sup>94</sup> 1 HKD = 0,11 EUR



Programme, there is an additional process in which UGC selected projects are subjected to a competitive selection process by the government.

The recurrent grants include block grants and funds provided for specific purposes. Determination of the recurrent grants is largely based on a methodology developed by the UGC. The UGC takes into account the special needs of individual institutions and other factors not captured by the funding formula and will introduce extra-formulaic adjustments where required.

The UGC follows a triennial planning cycle for the recurrent grants, in which three activity components are considered: (1) Teaching (about 75% of the funding), (2) Research (about 23%) and (3) Professional activity (about 2%). In the current triennium agreement period (2012–2015) an extra element was included to fund the additional undergraduate year (from three of four years). The planning cycle normally starts two years before the commencement of each triennium.

The teaching component factors in student numbers, their study levels, mode of study, and discipline of study. With respect to the latter, three cost weightings are applied, i.e. more funding is received for (1) medicine and dentistry students and (2) sciences, arts and technology students. For students in other disciplines (e.g. social sciences) no additional funding is allocated. The UGC is informed of the enrolment situation through the annual submission of statistics in the Common Data Collection Format.

The institutions are, to a limited extent, allowed to enrol more students than their target quotas. The additional tuition fee income may be spent as the institution sees fit. Under-enrolment is also allowed, but again to a limited extent: if the under-enrolment across a whole institution exceeds 4% of the target quotas, UGC has the right to claim back part of the allocated funding.

The research component has two parts: (1) performance in the Research Assessment Exercise (RAE) and (2) success in obtaining funds from the Research Grants Council (RGC – a funding agency), indicating esteem. The first part accounts for 80% of the funding, the second for 20%. The goal of the RAE is to make an assessment of the research quality and to encourage world-class research. The RAE results in quality profiles for each of the eight UGC-funded institutions. These profiles are used to inform the distribution of part of the UGC block grant for research. In the RAE, academics submit up to four research outputs (not only papers in journals, but also patents, etc.) for review. These are evaluated on originality and significance and classified from four stars (world leading) to unclassified. In addition, each HEI is required to submit a research strategy statement in which it reflects on its research priorities (across disciplines) in relation to its mission.

The professional activity component funds professional non-research activities undertaken by academics. These are activities related to engagement and knowledge transfer work. The number of academics within institutions is used to calculate the allocated budget.

The recurrent grants are disbursed to institutions, normally on a triennial basis to tie in with the academic planning cycle and in the form of a block grant to provide institutions with maximum flexibility.<sup>95</sup> Once allocations are approved, institutions have a high degree of freedom in deciding how the resources available are put to best use.

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<sup>95</sup> UGC Notes of Procedures, Chapter 2. See: <http://www.ugc.edu.hk/eng/ugc/publication/note/nop.htm>

Apart from capital project funding and recurrent grants, the UGC operates a Matching Grant Scheme to encourage HEIs to strengthen their fund-raising capacity, increase donations from their stakeholders such as alumni, and develop a stronger philanthropic culture in the community towards investment in education. The UGC matches every privately donated dollar (up to a maximum amount) and in this way encourages HEIs to build on their strengths. Over ten years the Matching Grant Scheme has raised a substantial amount through private donations.

### ***Performance agreements (Academic Development Plans)***

The process through which the level of the recurrent grants is determined follows a standardised planning cycle. The cycle starts with the issuing of guidelines by the UGC (“start letters” on student number targets, manpower requirements) and the invitation to HEIs to write their Academic Development Proposals (ADPs), which is a kind of development plan for the institution.

The UGC discusses the ADPs with the HEIs and uses an international working group to provide feedback on the ADPs. All the ADPs are evaluated on four criteria: Strategy (*i.a.* role consistency), Teaching & Learning (*i.a.* international standards), Advanced Scholarship (*i.a.* research used in undergraduate programmes), and Community (including Culture and Businesses; *i.a.* relationships with community). If the circumstances warrant, amendments can be made to the ADPs during the triennium agreement period. Examples of amendments are the introduction of new study programmes and changes in the target student numbers. Based on the evaluation, UGC’s feedback to the institutions focusses on (1) the overall developments related to Hong Kong’s higher education system in the triennium period and (2) specific academic developments mentioned in the ADPs that UGC find particularly justifiable.

After the consultations, the UGC sends its advisory letters to the HEIs. Based on the advisory letter and their ADP, institutions make an estimate of costs. UGC examines the cost estimates as submitted by the institutions and the detailed recurrent grant assessment exercise. Following the evaluation and using the recurrent grant funding formula, the UGC submits its grant recommendation to the government of Hong Kong. Finally, following approval by the Finance Committee of the Legislative Council, letters (“allocation letters”) are issued formally notifying the institutions of the details of their approved recurrent grants.

The goal of this allocation process is to ensure that institutions are making strategic choices based on strategic goals, market demands, and the relative strengths or weakness of programmes. ADPs are written according to fixed guidelines prepared by the UGC. The UGC consulted and agreed with institutions on the rules, evaluation criteria, procedure and principles of the ADPs.

After the triennium agreement period the UGC evaluates whether the institutions have achieved the performances agreed upon in the ADPs. If not, the institutions can be required to return part of the funding. The Recurrent Grant for an upcoming period takes into account the recent performance of the HEIs in fulfilling their roles, as well as any other factors which might be relevant in a particular case.

### ***Experiences and effects***

Through the funding arrangements (recurrent grants and the matching grant scheme), competition has become deeply engrained in Hong Kong’s higher education culture. The mechanisms have allowed the Hong Kong government to steer the institutions in particular directions. The RAE is believed to

have induced improvements in research and strengthened accountability. However, some criticism has been voiced against the heavy focus on publishing in internationally renowned journals. Despite this, the RAE managed to improve the research culture and output.

The UGC concluded in its Guidance Notes for the RAE 2014 (University Grants Committee, 2014: p. 8), that in “retrospect, the RAE has been effective as a means of:

- inducing improvement in research;
- informing funding; and
- upholding public accountability.”

In an evaluation of the RAEs up to 2008, Currie (2008) found other effects as well. Firstly, she noticed that many academics seem to have accepted the RAE system. It has set the rules of the game and the academics adapt their careers to the rules set by the RAE. Secondly, the system is not free of criticism:

- The focal point was the usage of the number of refereed articles in prestigious international journals as a proxy for research productivity, effectively disregarding local journals and giving lower opportunities to fields of study with more of local focus (e.g. social sciences). According to some, the focus on quantity of publications, led to “more mediocre [publications] with little substance or originality” (Currie, 2008: p. 55).
- The strong focus on research output for funding, led to neglect of teaching and student counselling. Some institutions or research groups used this as a negative incentive: “increases in teaching loads were used as a negative sanction for those who did not publish enough” (Currie, 2008: p. 55).
- The stronger focus on performances altered institutions’ hiring policies, making it more difficult for academics to secure tenure and for new recruits to secure research positions.

Despite the criticism, Currie (2008) concluded that the RAE did indeed improve the research culture and output, thus achieving the desired effects. Yet, the criticism described above did lead to amendments in the RAE. Firstly, the frequency of the assessments was reduced to soften the increased bureaucratic activities required. Secondly, performance indicators were adjusted to include local publications, not necessarily in journals (e.g. book chapters). Thirdly, to avoid institutions developing in the same research oriented directions, more emphasis was placed on heterogeneity in the institutions’ missions.

The development of the funding model is an ongoing process: every triennium aspects are changed or adjusted. Experiences from the previous triennial period and feedback from stakeholders are used to optimise the funding model. The UGC’s review of higher education is also important (see for example University Grants Committee, 2010).

Earlier adjustments to the funding model provide insights into the learning process. Noteworthy, adjustments to the funding model are:

- Teaching performances were given a higher percentage of funding, which was presumably partly done to counter the institutions’ wish to profile themselves mainly with world-class research.
- The extensive Performance and Role-related Funding Scheme, initiated in 2004, was integrated into the institutions’ academic development proposals.

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## Ireland

### *The system*

Ireland has a diversified higher education system. Higher education is provided mainly by seven universities, fourteen institutes of technology (including the Dublin Institute of Technology) and seven colleges of education. There also are some other institutions at the tertiary level, providing specialist education in such fields as art and design, medicine, public administration, hotel management, and theology.<sup>96</sup> In addition to publicly-funded colleges, there are a small number of independent private higher education institutions, mainly offering courses in professional vocational training and business. Some of these private institutions are linked to universities or professional associations and their qualifications may be accredited accordingly.

The total number of students is about 170,000. The university and the Institutes of Technology (IOT) sector each have about 80,000 students. The college sector has about 10,000 students. In total, about 22,500 persons are employed in the public higher education institutions, most of them in the university sector (14,000). In essence, the Irish higher education sector forms a binary system, but the boundaries have become a bit blurred in recent years. The Institutes of Technology, established from 1993, were formerly regional technical colleges. IOTs are strongly labour market oriented. The bulk of their provision is at degree or sub-degree level (5A and 5B in OECD terms) but all have some taught postgraduate study and a small number have PhD awarding powers (unlike most European universities of applied sciences).

The Department of Education and Skills is responsible for all levels of education in Ireland. Higher education is governed by the Higher Education Authority<sup>97</sup> (HEA), the statutory planning and development body for higher education and research in Ireland. The HEA acts like a kind of nationwide coordinating board, serving as an intermediary between the ministry and the institutions, with a degree of independence from the government<sup>98</sup> (McGuinness, 2014). The HEA has wide advisory powers throughout the whole of the higher education sector. In addition it is the funding authority for the publicly funded institutions. The HEA has an overseeing role with regard to strategic plans and quality assurance procedures. It also is responsible for the management and disbursement of all recurrent and capital funds to the universities.

The Universities Act, enacted in 1997, sets out the objects and functions of a university, the structure and role of governing bodies, staffing arrangements, the composition and role of academic councils and also contains sections relating to property, finance and reporting. The governing authorities are required to see that strategic development plans and procedures for evaluating teaching and research are in place. The HEA has an oversight role for these plans and quality assurance procedures. The legislative framework preserves the academic freedom of the universities and respects the diverse traditions and institutional autonomy of each university. The Institutes of Technology Act, 2006, creates a similar relationship between the institutes of technology (IOT) and the HEA as that between

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<sup>96</sup> For the list of institutions, see: <http://www.education.ie/en/Learners/Information/Providers-of-Higher-Education/List.html>

<sup>97</sup> See: <http://www.heai.ie/>

<sup>98</sup> Aims C. McGuinness Jr. (2014), *System Regulation and Governance: Ireland and the International Context*. Background paper for Symposium 21<sup>st</sup> Century Universities: Performance and Sustainability. Irish Universities Association. Dublin, 29 September 2014.

the HEA and the universities. It provided for greater institutional autonomy, improved governance and a statutory guarantee of academic freedom for the IOTs.

With the 1997 Universities Act, Ireland decentralised institutional governance within the framework of overall system coordination and oversight by the HEA. Irish universities are among the most autonomous in Europe on the various dimensions of autonomy. The HEA does not have authority to review and approve new academic programmes for either quality or potential unnecessary duplication of other institutions' programmes/courses. In an OECD review of the Irish higher education system (OECD, 2004), it was noted that in Ireland there was a lack of national and system-level organisational capacity to shape sound strategic finance policy. The reviewers stated that this may have a significant impact on the future of Irish higher education.

### *The policy context*

Before describing the higher education policy context it is important to note that Ireland's economy crashed dramatically from the heights of the 'Celtic Tiger' boom in 2007 to the depths of a harsh recession from 2008 onwards. The 'Celtic Tiger' period (2000–2007) saw annual GDP growth rates of between 5% and 9% and the education sector received substantial investment in capital projects and research funding through a Strategic Innovation Fund. After the economic crisis in 2008, Ireland has experienced many years of austerity.<sup>99</sup> Ireland's economy went into free fall: average unemployment rose from 6.4% in 2008 to almost double that in 2009. In 2011, the unemployment rate reached its peak, at close to 15%. For the Irish HEIs this meant that the proportion of overall funding that came from the government fell significantly. At the same time there was an increase in Ireland's population and increased participation in higher education. Combined with a 32% reduction in public funding for higher education over the past six years (from €1,4 billion to €940 million) this led to a decline in the overall income per student of 22% between 2008 and 2014 and an increase in class sizes. There has also been virtually no new state investment in capital infrastructure in Irish universities and colleges since 2008. The reduction in government funding was partially offset by increases in the student contribution and reductions in HEIs' staff numbers and salaries. Despite this, education continues to be regarded as critical to the economic recovery of the country. There is a projected continuing increase in demand for higher education places until 2020, with student numbers expected to rise from 204,000 in 2012 to 250,000 in 2020.

Quality and Qualifications Ireland (QQI) was established in November 2012 through the merger of the accreditation boards for the higher education and the further education sectors (the FETAC and HETAC) and the National Qualifications Authority of Ireland. QQI was given responsibility for the external quality assurance function formerly carried out by the Irish Universities Quality Board (IUQB). The purpose of the establishment of QQI was to bring greater coherence to the sector, creating a single quality / qualifications body that was also expected to bring a stronger focus on the creation of flexible pathways for learners.

Since the 2004 OECD review, a number of important developments have taken place in Ireland. The first national strategy for higher education in Ireland was published in 2011: *National Strategy for*

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<sup>99</sup> Lillis, D. and Lynch, M. (2014), *New Challenges for Strategy Development in Irish Higher Education Institutions*, Higher Education Policy, Vol. 27, pp. 279-300.

*Higher Education to 2030* (the “Hunt report”, named after its chairperson, economist Colin Hunt)<sup>100</sup>. Prior to that year, individual HEIs were left to their own devices to interpret their environment and determine their own strategic direction. In February 2009, the Minister for Education and Science appointed a Strategy Group to develop the new national strategy. It started a process of analysis and planning, and consultation with HEIs and other stakeholders. The Hunt report identified a large number of challenges. In addition to recommendations urging reform and innovation in teaching and research, internationalisation and engagement, the report recommended changes to the overall structure and organisation of the system.

The National Strategy aims to transform Ireland’s higher education sector over the next two decades. It provides a roadmap for the most fundamental reform of Irish higher education in the history of Ireland. The strategy recommended rationalisation and mergers to create efficiencies and increase mission diversity, proposing that HEIs should be subjected to greater oversight through a strategic dialogue process and institutional contract. It also suggested a graduate tax or an income contingent loan system as an alternative to a no-tuition fee policy in order to inject much needed funds into the system.<sup>101</sup>

In calling for greater system-level coherence and coordination, the Hunt Report signalled an end to bottom-up collaboration, and the start of government-led steering to ensure that the system of HEIs could better meet the future demands of society and the economy. The report focused on three significant structural policy developments:

1. Reform of the Institutes of Technology sector through mergers;
2. Consolidation and absorption of smaller institutions into the university sector; and
3. Establishment of regional clusters of collaborating institutions within geographical areas.

The Hunt report was a radical and controversial point of departure, in which the state sought to move higher education from a non-directed organisation of individual institutions to one where the system evolves within a clear framework that is aimed at developing a coherent set of HEIs (Hazelkorn & Harkin, 2014)<sup>102</sup>, each of significant strength, scale and capacity and with complementary and diverse missions that together meet individual, enterprise and societal needs (Hunt Report, p. 14).

Enhanced accountability and a greater focus on performance are the key goals of the higher education reform programme that is currently being implemented throughout the sector. In assessing that performance, the examination of many factors comes into play. In developing a *System Performance Framework*, the government started with their priorities for Ireland as a whole and from that developed seven key system objectives. These articulate the government and society’s expectations of the higher education system in qualitative areas such as teaching, research, innovation and access and also put in place milestones for restructuring and for the use of public funds to achieve excellence.

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<sup>100</sup> HEA (2011), *National Strategy for Higher Education to 2030*, Dublin: Department of Education and Skills. <http://www.education.ie/en/Publications/Policy-Reports/National-Strategy-for-Higher-Education-2030.pdf>

<sup>101</sup> So far, a graduate tax or income contingent loans system has not been implemented.

<sup>102</sup> Hazelkorn, E. and Harkin, S. (2014), *Restructuring Irish Higher Education through Collaboration and Merger. In Mergers and alliances in higher education: International practice and emerging opportunities*. Springer, 2014.

A key recommendation was that a steering and performance based framework for the system governance of higher education in Ireland should be put in place<sup>103</sup>. Other key recommendations were #25, where the strategy calls for the HEA to keep “[...] institutions under close review in relation to the sustainability of their ambitions for growth, as measured against the financial resources available to underpin that growth”, and #26, which stresses that “public investment in higher education must be aligned with national policy priorities, including widening of access, enhanced performance outcomes, and greater flexibility in provision.”

Endorsed by the government as the future blueprint for the sector, the strategy sets out changes for the sector that are aimed at providing for:

- A more flexible system, with a greater choice of provision and modes of learning for an increasingly diverse population of students;
- Improvements in the quality of the student experience, the quality of teaching and learning and the relevance of learning outcomes; and
- Ensuring that higher education connects more effectively with wider social, economic and enterprise needs through its staff, the quality of its graduates, the relevance of its programmes, the quality of its research and its ability to translate that into high value jobs and real benefits for society.

The reforms also stretch into the areas of the internationalisation of higher education, system governance, and the funding of the system. The national strategy recommended a new relationship between the state and HEIs.

According to Hazelkorn (2013)<sup>104</sup>, until recently, higher education policy was dominated by questions of massification and access, and getting more people well-educated. Today, the emphasis is on quality and sustainability in the context of accelerating global competitiveness and the reality of the post-2008 Irish economy. Ireland faces the dual challenge of meeting extensive socioeconomic and demographic demands on/for higher education at a time of decreasing public budgets and public support for publicly-funded institutions.

Even when the economy returns to growth, it is unlikely that funding will return to the levels enjoyed during the previous “golden age”. At the same time, Ireland is struggling to reposition itself as an attractive venue for global capital and skilled labour and to sustain its publicly-funded mass higher education and university-based research system.

It was seen as crucial that HEIs are able to collaborate and develop connections and regional clusters so that critical mass and the delivery of services to their communities was enhanced. In February 2012, the HEA published “Towards a future higher education landscape”. This document was the result of bottom-up (HEIs) and top-down (international experts, and national policy advisors) inputs into the discussion on the future (“ideal”) higher education system. It included criteria for technological universities. HEIs were invited to make suggestions (submissions) to the HEA on their future position within the HE landscape. Their submissions were received in summer 2012 and subject

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<sup>103</sup> See [http://www.hea.ie/sites/default/files/national\\_strategy\\_for\\_higher\\_education\\_2030.pdf](http://www.hea.ie/sites/default/files/national_strategy_for_higher_education_2030.pdf), Recommendations 17, p. 22.

<sup>104</sup> Hazelkorn, E. (2013), *Rebooting Irish Higher Education: Policy Challenges for Challenging Times*. Conference paper. Dublin: DIT.



to review. *Institutional Responses to the Landscape Document and Achieving the Objectives of the National Strategy for Higher Education* was issued to all HEIs in November 2012, along with a report by an International Panel on *A Proposed Reconfiguration of the Irish System of Higher Education* (HEA, 2012)<sup>105</sup> and a report on the *Future Demand for Higher Education in Ireland*. The HEA engaged this International Expert Panel to advise it on the optimal configuration of the Irish higher education system. The panel took a more 'green fields' approach, and provided additional input to assist the HEA in providing advice to the Minister for Education and Skills on an outline blueprint for the national higher education system. The panel was asked to advise on the number, types and locations of institutions that will be required over the next 10-20 years.

In January 2013, a further document (*Completing the Landscape Process for Irish Higher Education*)<sup>106</sup> was published by the HEA to bring together various inputs, expert analyses and submissions from the HEIs and to provide an outline structure and potential reconfiguration of the system. This document served as a focus for discussions in a round of consultation meetings with the higher education institutions in February 2013.

The Hunt report had endorsed the binary system, saying "formal mergers between institutes of technology and universities should not in general be considered as this might dilute the diversity of the system". However, the Hunt report proposed to use merger as a system-level tool to address problems of fragmentation and institutional size to create HEIs of sufficient scale and capacity to meet future national and globally competitive demands. The HEA developed criteria for the re-designation of consortia of Institutes of Technology, following merger, as technological universities. The HEA launched a consultation on regional clusters and consolidation of institutions leading to mergers. A process for establishing technological universities following mergers was initiated. In 2014, the HEA received plans from two consortia - Cork IT and IT Tralee; Dublin Institute of Technology, IT Blanchardstown and IT Tallaght. Technological universities are expected to be a valuable addition to the Irish higher education sector, enhancing student choice and broadening the range of outcomes. These institutions will be recognised, in Ireland and internationally, as operating at university level. Based on the advice of an international panel the minister will make a decision at the end of 2014.

In May 2013, the HEA's report to the Minister for Education and Skills on *System Reconfiguration, Inter-Institutional Collaboration and System Governance in Irish Higher Education*<sup>107</sup> was published. This set out the autonomous, diverse institutions that will comprise the Irish higher education system in the future, together with their key relationships in alliances, and in regional and thematic clusters. In May 2013, the Minister for Education and Skills responded to the HEA's report in a letter<sup>108</sup>, setting out his response to a number of key areas relating to system governance and configuration.

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<sup>105</sup> HEA (2012). *A Proposed Reconfiguration of the Irish System of Higher Education*; Report prepared by an International Expert Panel for the Higher Education Authority of Ireland. See: [http://9thlevel.ie/wpcontent/uploads/International\\_Panel\\_Report.pdf](http://9thlevel.ie/wpcontent/uploads/International_Panel_Report.pdf) .

<sup>106</sup> HEA (2013), *Completing the Landscape Process for Irish Higher Education*. See: [http://www.hea.ie/sites/default/files/completing\\_the\\_landscape\\_process\\_finalx.pdf](http://www.hea.ie/sites/default/files/completing_the_landscape_process_finalx.pdf)

<sup>107</sup> HEA (2013), *Report to the Minister for Education and Skills on system reconfiguration, inter-institutional collaboration and system governance in Irish higher education*. See: [http://www.hea.ie/sites/default/files/2013\\_05\\_31\\_amended\\_report\\_to\\_minister\\_31\\_may\\_2013a\\_red.pdf](http://www.hea.ie/sites/default/files/2013_05_31_amended_report_to_minister_31_may_2013a_red.pdf)

<sup>108</sup> Minister for Education and Skills (2013), *Letter to Chair of HEA*. See: <http://www.education.ie/en/Publications/Policy-Reports/HEA-Report-to-the-Minister-for-Education-and-Skills-on-Irish-higher-education-Response-Letter-.pdf>

In his letter, the minister welcomed the HEA recommendations and announced a major re-organisation of the country's higher education sector. A new relationship between the state and the HEIs was to be established, to encourage the system to deliver the outcomes that have been identified as essential for Ireland's social and economic well-being. Key to this is a new performance framework and a process of strategic dialogue between the HEA and the HEIs. The HEA will mediate the accountability for performance of the HEIs against a set of clearly defined national priorities and key system objectives. These new parameters will underlie the dialogue between HEA and HEIs.

### *The funding model*

Core funding for teaching and research is allocated through a system of block grants. The funding allocation for universities is informed by a formula based unit cost calculation. In addition, a grant is made in lieu of undergraduate tuition fees, which is based on course fees multiplied by certified student enrolments. A similar system is being introduced for the institutes of technology, replacing a system based on a negotiation of programme budgets between the institutes of technology and Department of Education and Science, an incremental system based on historical attribution of funds.

The public higher education funding model in Ireland has three major components: institutional funding, capital funding, and research funding. The institutional funding component is subdivided into the following parts:

1. Core recurrent grants;
2. Grants in respect of the "Free Fees" scheme;
3. Other specific funding streams (as part of the core grant);
4. Performance-related funding (since 2014).

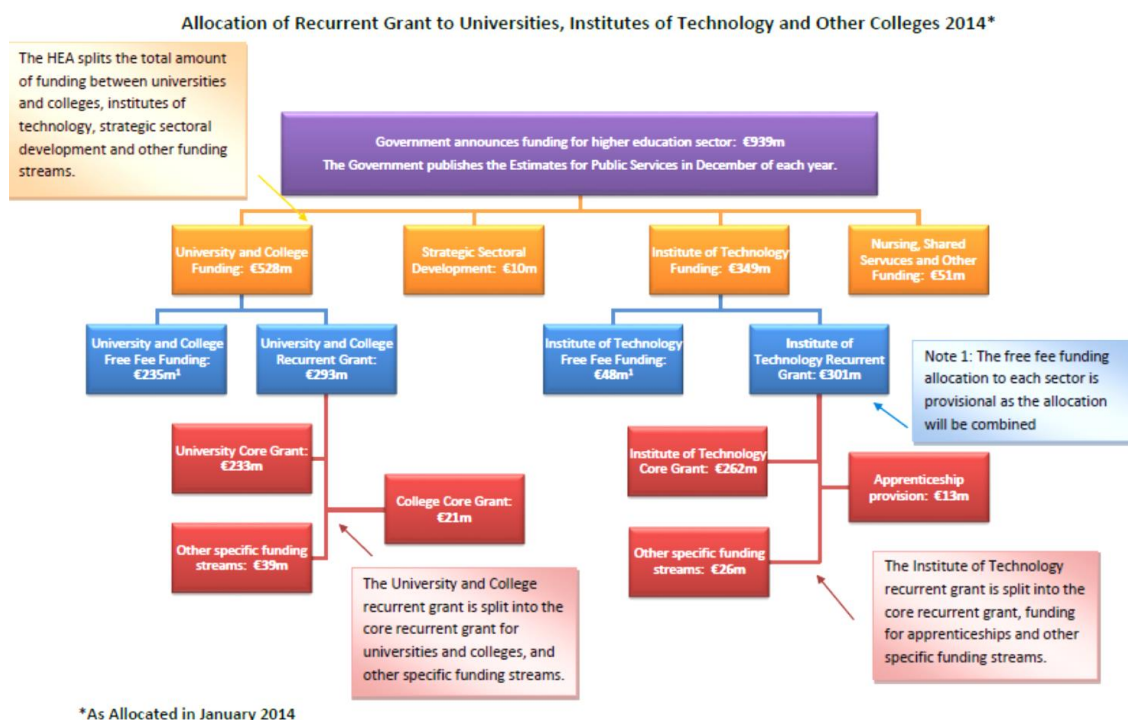
The core recurrent grant is formula-based. This core (block) grant is based on student numbers, weighted in four price groups. A new formula funding mechanism was introduced in 2006 with the Recurrent Grant Allocation Model (GAM), which replaced a previous historical funding mechanism. The GAM has been gradually implemented since 2006. The formula works on the basis of an assessment of student numbers. The HEA does not count initial enrolments; instead it counts students enrolled about two-thirds of the way through the academic year as this provides a strong incentive to reduce drop-out but avoids a direct link of funding to academic results and the risks of perverse incentives. The internal allocation of funds between teaching and research is a matter for each institution. Adjustments are made in the model to account for underrepresented groups (an additional weighting of 33% is used to reflect the costs of attracting and supporting students from non-traditional backgrounds) and for research (5% of the core allocation is top-sliced and allocated to universities – not institutes of technology – on the basis of research criteria such as research degrees awarded and contract research income per academic staff). Finally, the model includes a Moderation of Impact of between +2% and -2% to avoid drastic swings in allocations from one year to the next and assure financial stability within the system.

Tuition fees payable by students were abolished in 1997, and since this time the government has paid a fee in lieu of the student, at a level it sets. This grant (the *free fees grant*) therefore represents the undergraduate fees. The allocation is based on course fees multiplied by certified student enrolments. Since 1995/6 this grant has been distributed by a process involving the submission of a fee claim which is certified by the president of each HEI. However, the fees paid in lieu do not meet the costs of education and a registration fee payable by students has increased considerably to cover these costs.

Undergraduate fees were abolished as a means of widening participation but also in recognition that the student support system, at that time, could not adequately redress inequities in the student grant system, as children of farmers and other self-employed people could more easily make use of financial support than children of public or private sector workers. In 1997, at the same time as the introduction of the “free fees” regime, a student registration fee (not called a fee, but a student contribution) of about €200 was introduced to cover registration, exams and student activities. This has increased ever-since, and is set to rise to €3,000 by 2015. In contrast, all postgraduate students pay a tuition fee. There is a student grant system in Ireland providing means-tested student grants, but so far there is no student loans programme.

*Targeted or strategic funding*, the third element in funding, supports specific national strategic priorities and is allocated to institutions on a competitive basis.

The picture below gives an impression of the size of the three components of institutional funding for universities, IOTs and other colleges in 2014.



Source: [http://www.hea.ie/sites/default/files/flowchart\\_of\\_funding\\_for\\_website2014.pdf](http://www.hea.ie/sites/default/files/flowchart_of_funding_for_website2014.pdf)

A performance-related funding component was introduced in 2014 as part of the recurrent grant to HEIs (see next section). The performance funding component is a small share of the annual core grant and is linked to performance by HEIs in delivering on national objectives set for the sector. The process of performance contracts (referred to as compacts – see next section) is still in evolution. But the HEA’s fundamental proposal is that up to 10% of the grant allocated by the HEA would be at risk if institutions do not deliver against the terms of their performance compact. So this performance

funding is a further sub division of the core funding to the institutions, rather than an extra allocation. These proportions are the same for universities and institutes of technology.

Another component of the Irish funding model concerns capital funding. This refers to infrastructure and facilities. Capital investment enables the construction of new teaching, research and student services buildings, refurbishment projects, infrastructure development and property acquisition. The two major activities relate to (a) general (mainstream) capital investment and (b) research capital investment.

Research Funding constitutes the third component of the funding model. It comprises funds for buildings and equipment and research programmes. The funding of research in HEIs, in addition to the funds provided through the recurrent grants, is allocated on a competitive basis through the research councils, the Irish Research Council for Science Engineering and Technology (IRCSET), the Irish Research Council for Humanities and Social Sciences (IRCHSS), the Programme for Research in Third Level Institutions (PRTL), and funds provided by the Science Foundation Ireland. In the period 1995-2008, significant increases in research funding were made available through the PRTL as well as Science Foundation Ireland (SFI) and the research councils.

For the purposes of this report, the national Programme for Research in Third-Level Institutions (PRTL) is relevant. It offers third-level institutions an opportunity to build infrastructure and invest in capacity and capability, in line with institutional strategies. PRTL provides integrated financial support for institutional strategies, programmes and infrastructure in key areas of research spread across all disciplines. The programme supports research in humanities, science, technology and the social sciences, including business and law. Over five cycles (beginning 1999) the PRTL allocated € 783.6m for Buildings and Equipment and €429.7m for Research Programmes and People<sup>109</sup>.

In a *Research Prioritisation Exercise* (RPE)<sup>110</sup> 14 research priority areas were identified plus six platform sciences and technology. These were selected for targeted funding. With an emphasis on (industrial) relevance, each field was assessed against four high-level criteria: association with large global markets in which Irish-based enterprise does/can realistically compete; public investment in R&D is necessary and can complement private sector research; Ireland has objectively measured strengths; and the field represents a national or global challenge to which Ireland should respond.

In 2013, legislation was passed allowing Science Foundation Ireland, one of the largest funders in the Irish research system, to fund applied research in addition to basic research and also to fund those areas identified in the research prioritisation strategy. The new legislation permits Science Foundation to fund research in Northern Ireland and to contribute to the funding of international collaborative research projects relating to areas of strategic importance to Ireland.

The government's strategy document for the higher education sector, the *National Strategy for Higher Education to 2030*, also addressed the issue of PhD programme structure and design. It recommended that they should incorporate generic skills and be formulated with direct engagement with employers and enterprise where appropriate. The document noted that critical mass in PhD programmes was of

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<sup>109</sup> See: <http://www.heai.ie/en/funding/research-funding/programme-for-research-in-third-level-institutions>

<sup>110</sup> Forfás (2012), Report of Research Prioritisation Steering Group. See: [http://www.djei.ie/publications/science/2012/research\\_prioritisation.pdf](http://www.djei.ie/publications/science/2012/research_prioritisation.pdf)

the highest importance if quality was to be maintained. The national research prioritisation strategy also recommended changes in the approach to PhD training.

Given projections for future growth in demand for higher education and the goal of assuring quality, the (previous) Minister for Education called for a review of the funding model and appointed an expert group to advise on the future funding arrangements and consider other issues relating to the long term sustainable funding of higher education in Ireland. The expert group will also look at the contentious issue of student contributions. The core formula allocation model is being reviewed to improve the alignment of funding incentives with national objectives – including support for collaboration, access, engagement and research, and for an appropriate mix of disciplines and levels. The treatment of the ‘fee grant’ is being reviewed to secure a better alignment of funding for STEM provision (science, technology, engineering, mathematics) with STEM costs. The report of the working group will be published in 2015.

### ***Performance agreements (institutional performance compacts)***

As part of the on-going reform envisaged by the Landscape and Re-configuration documents (see above), the HEA initiated a process of *strategic dialogue* with the HEIs. Institution level strategic dialogue will be complemented by strategic dialogue at system level to create a coherent, well-coordinated system of HEIs. The aims of this dialogue are:

- To demonstrate how each institution is making its distinctive contribution to key national expectations of higher education;
- To support institutions’ efforts to improve their own performance – through better strategic planning and management, particularly with regard to the increasingly competitive global environment in which our institutions operate;
- To demonstrate how institutions are performing against the objectives set out in their own strategic plans;
- To enhance the accountability of higher education in respect of the very significant public funding allocated annually.

As a first step in this strategic dialogue, the HEA is inviting institutions to develop a *mission-based performance compact*, also referred to as the ‘institutional compact’, that is in line with their distinct mission and role within Irish higher education.

The institutional compact will be the instrument through which the HEA and the institution agree on the institution’s mission, profile and strategy, specifying the institution’s agreed objectives and the criteria against which progress towards these will be assessed. This strategic dialogue is linked to funding allocations. A share of core funding will be allocated on the basis of performance against agreed KPIs. The introduction of performance funding represents a major new element in the higher education system.

The HEA will report back to the minister about the performance of the system on an annual basis. In assessing system outcomes, the government takes a broad view of how the system is performing. It looks more closely at the performance outcomes of HEIs and regional clusters. The HEA will look at the individual performances of institutions in contributing to goal achievement. System objectives inform institutional key performance indicators (KPIs) in the performance compacts.

For this, a new system performance framework was put in place by the HEA.<sup>111</sup> The System Performance Framework states national priorities and key objectives for higher education for 2014–2016. The overarching objectives are defined according to measurable high-level indicators and monitoring indicators. The seven system objectives are:

1. System objective 1: Meeting Ireland’s human capital needs – higher education responding to the jobs crisis.  
To meet Ireland’s human capital needs across the spectrum of skills by engaged institutions through a diverse mix of provision across the system and through both core funding and specifically targeted initiatives.
2. System objective 2: Equity of access and student pathways.  
To promote access for disadvantaged groups and to put in place coherent pathways from second level education, from further education and other non-traditional entry routes.
3. System objective 3: Excellence in teaching and learning to underpin a high quality student experience.  
To promote excellence in teaching and learning to underpin a high quality student experience.
4. System objective 4: Excellent public research and knowledge exchange actors.  
To maintain an open and excellent public research system focused on the government’s priority areas and the achievement of other societal objectives and to maximise research collaborations and knowledge exchange between and among public and private sector research actors.
5. System objective 5: Globally competitive and internationally oriented institutions.  
To ensure that Ireland’s higher education institutions will be globally competitive and internationally oriented, and Ireland will be a world-class centre of international education.
6. System objective 6: Restructuring for quality and diversity – a higher education system engaged in and committed to reform.  
To reform practices and restructure the system for quality and diversity.
7. System objective 7: Accountability for public funding and public service reform.  
To increase accountability of autonomous institutions for public funding and against national priorities.

These national priorities and key system objectives for the 2014–2016 period were agreed by the government in May 2013. They were developed by the ministry in consultation with the HEA. There was not a consultation process with HEIs. The framework set the basis for dialogue between the HEA and HEIs, with each HEI required to demonstrate how it would contribute to the achievement of national objectives.

The purpose of the performance framework is to hold the system accountable for performance on the delivery of national priorities, monitor the performance of the system as a whole and increase the visibility of performance of the system to the government and the wider public. To allow HEIs to identify their strategic niche and mission and agree a performance compact, the HEA invited HEIs to submit their proposals for an institutional compact. To assist the HEIs in preparing their compact, the HEA has developed guidelines<sup>112</sup> - a standard template structure. The institutional compact has a

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<sup>111</sup> HEA (2013), Towards a Performance Evaluation Framework. See: [http://www.heai.ie/sites/default/files/evaluation\\_framework\\_long.pdf](http://www.heai.ie/sites/default/files/evaluation_framework_long.pdf)

<sup>112</sup> HEA (2013), Guidelines for completion of mission-based performance compacts. July 2013. See: [http://www.heai.ie/sites/default/files/2\\_guidelines\\_for\\_completion\\_of\\_compact.pdf](http://www.heai.ie/sites/default/files/2_guidelines_for_completion_of_compact.pdf)

uniform structure, allowing each institution to complete the parts specific to their institution. As an example, the Contents page of the compact for Trinity College Dublin is shown below.

## Contents

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	<b>Page</b>
<b>1. Establishment of the Compact</b>	<b>4</b>
Provides for the establishment of the Compact and its term, and for the Higher Education Authority to inform Trinity College Dublin of any actual or prospective changes to policy.	
<b>2. Performance Funding Framework</b>	<b>5</b>
Sets out the Performance Funding Framework within which the HEA will allocate performance funding to Trinity College Dublin	
<b>3. Mission and Strategy Statement</b>	<b>6</b>
Includes a statement of Trinity College Dublin's mission and strategy. Trinity College Dublin also agrees to inform the Higher Education Authority of changes to its mission and profile.	
<b>4. Current and Planned Profile</b>	<b>9</b>
Contains the current profile 2010/11 (as supplied by the HEA) and the planned profile 2016/17 completed by Trinity College Dublin	
<b>5. Development Plans and Objectives</b>	<b>10</b>
Sets out Trinity College Dublin's development plans and objectives using standardised templates. These development plans / objectives <i>must</i> be taken from the institution's own properly formulated strategic plan. The quality of the institution's strategic planning process will be evaluated.	
<b>6. Annual Compliance Statement</b>	<b>34</b>
As the strategic dialogue process develops, the HEA will take into account ongoing compliance of institutions. Where significant or urgent compliance issues arise, they will be discussed as part of the strategic dialogue in 2013.	
<b>7. Performance Funding</b>	<b>35</b>
Performance funding allocated in first cycle	
<b>8. Agreement</b>	<b>36</b>
Contains confirmation of the agreement between the HEA and Trinity College Dublin, to be signed upon conclusion of the strategic dialogue process.	
<b>Appendices</b>	<b>37</b>
Includes additional material supplied by Trinity College Dublin	

Source: *Mission-based Performance Compact between Trinity College Dublin and The Higher Education Authority* (February 2014). See:

[http://www.heai.ie/sites/default/files/tcd\\_1\\_final\\_mission\\_based\\_performance\\_compact\\_2014\\_2016\\_revised\\_4\\_6\\_14\\_with\\_crest.pdf](http://www.heai.ie/sites/default/files/tcd_1_final_mission_based_performance_compact_2014_2016_revised_4_6_14_with_crest.pdf)

In section 3 (*Mission and strategy statement*) the HEI sets out its mission and overall strategy to achieve this mission. This is a critical part of the compact and it will be specifically assessed by the HEA. The institution is expected to provide a commentary on its current and planned institutional profile and on how its profile is related to its mission and underpinned by a sustainable financial plan. It will be essential that all institutions have a clear perspective on their particular mission and role within the overall system. In particular, it will be essential that institutions ensure that their activities and programmes continue to reflect and are appropriate to their mission, which is their particular mix of programme levels, discipline specialisation, programme orientation, emphasis on regional engagement, student profile, mode of provision, research intensity and specialisation, intensity of internationalisation and international focus, and so on.

In section 4 (*Current and planned profile*), the institution fills in details of its planned profile as at 2016/2017 on a spreadsheet. The current profile is provided by the HEA and is to be used as the baseline for comparison with and formulation of the future profile.

In section 5 (*Development plans and objectives*) the institution sets out its development plans and objectives, as derived from its own strategic plan. In total, there are seven subsections, corresponding to the five key national objective domains plus regional clusters and institutional consolidation. Institutions are also expected to indicate, in further technical appendices, how their objectives might be monitored and objectively verified. The seven categories are:

1. Regional clusters;
2. Participation, equality of access, and lifelong learning;
3. Excellent teaching and learning and quality of the student experience;
4. High quality, internationally competitive research and innovation;
5. Enhanced engagement with enterprise and the community and embedded knowledge exchange;
6. Enhanced internationalisation;
7. Institutional consolidation.

For each domain of objectives, institutions are asked to provide a *strategy summary* and details of institution *objectives* and *performance indicators*.

The *strategy summary* should refer to the objectives chosen and why, and should show how the objectives in each domain relate to the institution's overall mission and profile. It should also refer to indicators of success and the benchmarks that inform the choice of target, showing how the achievement of their objectives will be verified. Where necessary, further supporting evidence with regard to the benchmarks and means of objective verification should be provided in appendices. Any external factors or assumptions that might affect institutional progress towards stated development objectives should be included in this strategy summary.

Institutions are asked to outline, in table form, their institutional *objectives* and *performance indicators* in relation to each of the domains. The following inputs are required:

- The objectives that the institution has set in this area and to be achieved by the end of the strategic dialogue period.



- The targets or performance indicators by which achievement of the objectives can be monitored or assessed – these should be high-level or key performance indicators only, although they need not be quantitative. In some cases the indicators might relate to processes completed rather than metrics or values attained.
- The baseline for the indicator, from which progress will be measured – this is the verified position from which the institution is starting on the journey towards its objective.
- The more immediate or interim targets or milestones on the path to the final target that the institution has set in relation to each area.

All indicators must be objectively verifiable. Institutions should also set out, in further technical appendices where necessary, the *means of verification* – for quantifiable objectives, these could be the data source or type of objectively verifiable statistics; or for more qualitative objectives, they could relate to milestones on completing process improvements, independently established benchmarks or other quality criteria.

With respect to *regional clusters* (the first of the seven categories to be covered in terms of the institution's objectives), every institution must form part of a regional cluster and an assessment of the performance of the cluster and of the institution's participation in it will form a significant part of the overall assessment of each institution's performance.

With respect to the objective of increased participation, equity and lifelong learning, HEIs should set quantitative goals related to how they will respond to the increased demand for higher education.

The *Agreement* section (section 7 of the compact) includes the signed confirmation of the agreement between the HEA and the institution. This section will be completed upon conclusion of the strategic dialogue process.

A word limit of 6,000 applies to sections 1 to 7 of the compact. In total, the compact should therefore not exceed 9,000 words, to include 3,000 words (approx.) of existing text. A separate word count of 10,000 applies to the appendices.

The process of strategic dialogue started in 2013 and in March/April 2014 led to institutional compacts being agreed between each of the institutions and the HEA for the period 2014–2016. There was an ongoing dialogue for nine months. As the strategic dialogue progresses and matures, both the HEA and the institutions are expected to learn from the process, and that learning will inform how the dialogue progresses further.

For each HEI, the strategic dialogue process is based on the strategic planning process already in place and the processes for monitoring the achievement of objectives. The institution's strategic plan, as formally adopted and monitored by its governing authority, is therefore the primary source for the institution's compact submission and (in subsequent years) for its self-review performance report.

In terms of the amount of performance funding, after an initial introductory or learning period during which the total amount of performance funding will be limited to €5m, a percentage of the core grant will be set aside to be allocated annually as performance-related funding. In future years, this will be up to 10 per cent. The remaining 90% will continue to be allocated on the basis of the current allocation model. In the first year of the strategic dialogue process (2013), performance-related funding from the 2014 grant allocation was subject to successful engagement with the process leading

to completion of the strategic dialogue process and an agreed institutional compact. In subsequent years, performance funding will be allocated based upon verified satisfactory performance against agreed objectives set out in the institution’s institutional compact. Therefore, the performance funding element will be introduced in 2015 and 2014 will be a pilot year. Ireland has not yet reached the point where institutions start to lose money.

In the first, pilot, year of the strategic dialogue process, the focus was on engaging with the process and establishing agreed institutional compacts with the HEA. In subsequent years, the process will have two objectives:

1. Agreement of objectives for the next three years;
2. Assessment of performance against these agreed objectives.

The development plans and objectives that each institution includes in its institutional compact (section 5) will form the criteria against which its performance will be assessed. Institutions themselves are invited to propose the performance indicators that should be used for these purposes. The assessment will be a holistic review of the institution’s performance, and will be carried out by a review team, comprising members of the HEA executive and a number of external national and international experts in higher education. As well as reviewing the objectives the institution has set for itself, the assessment will consider the quality of the institution’s strategic planning and its performance monitoring processes, and it will also take into account how challenging the objectives are. The assessment will examine any evidence of how the institution is building upon its strengths and addressing any weaknesses. In this context, institutions are encouraged to include details such as significant findings from institutional and other quality assurance processes and reviews, feedback from competitive funding processes, and findings from studies that the HEA itself undertakes to monitor progression. One such study was published by the HEA in 2014: Higher Education System Performance: First Report 2014-2016.<sup>113</sup> As discussed earlier, in 2013, a System Performance Framework, stating national priorities and key objectives for higher education for 2014–2016, was set out by the government. The first Annual System Performance Report reports progress against those objectives. Volume II of the report details the institutional and sectoral profiles for 2011-12.

Performance may be assessed as Category 1 or Category 2:

Performance assessed as	Consequences
<b>Category 1</b>	HEI continues to receive performance-related funding
<b>Category 2</b>	HEI will not be eligible to receive performance-related funding until specified deficiencies have been addressed

In the event of an institution receiving a Category 2 performance assessment in the December/ January meeting with the HEA, a revised plan will be sought from the institution and a further meeting will be held with that institution in March. If the institution’s performance at this meeting is still classified as Category 2, it will not be eligible for performance funding in that year. Funding foregone will be reallocated to other institutions through the Recurrent Grant Allocation Model.

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<sup>113</sup> HEA (2014), Higher Education System Performance: First Report 2014-2016. See: [http://www.heai.ie/sites/default/files/final\\_volume\\_i\\_system\\_report\\_with\\_cover\\_letter\\_.pdf](http://www.heai.ie/sites/default/files/final_volume_i_system_report_with_cover_letter_.pdf)

A key part of the assessment of institutional performance will be an annual *institutional self-evaluation* of overall performance and progress against agreed objectives as set out in its institutional compact. This evaluation will take the form of an annual *performance report* to the HEA. The institution will be required to identify and explain any areas where performance does not meet the objectives outlined in the institutional compact. Where the self-assessment leads to proposals from the institution to alter objectives or other terms of the institutional compact, these should be clearly identified for discussion in subsequent strategic dialogue with the HEA.

The higher education system started working with the new system performance framework in 2013. All twenty-six institutions returned completed draft compacts setting out their mission, strategies, objectives and performance targets to 2016 under all the required headings, within the required timescale. This first round of strategic dialogue concentrated on agreeing the mission, profile and strategy of each HEI taking account of its place in the landscape, agreeing the set of strategic objectives needed to implement the strategy and agreeing a set of realistic but challenging interim and final targets associated with the achievement of these objectives, together with the indicators of success by which the institution itself proposed that it should be measured and the clear means of verification of these indicators.

As a signalling measure, a limited amount of performance funding of €5m was reserved from the allocation of the 2014 recurrent grant to HEIs to be released subject to satisfactory engagement with the strategic dialogue process. In the allocation of this funding the HEA took notice of the fact that this was the first year of strategic dialogue and it was a developmental and learning stage for all involved in the introduction of a very significant new process.

The annual system performance report is itself an important part of the feedback in a system designed to improve overall system and institution performance. In the allocation of performance funding in year 2 of this process, the HEA will have regard to the agreed outcomes of this year's (2014) dialogue process with each institution, including not only specific objectives and indicators proposed within the compacts but also the general and specific feedback to institutions regarding the overall composition and quality of compacts. Institutions will be expected to be able to demonstrate that they have incorporated this feedback into their processes for next year's process.

The HEA was assisted by an external expert panel in its assessment of the draft submissions. Written feedback was provided to each institution which informed the agenda for a strategic dialogue meeting with each institution and with each regional cluster of HEIs. These meetings were held in December 2013 and January 2014 and were attended by the President and senior management teams of the institutions and by the CEO and senior management team of the HEA and by members of the external panel.

### ***Experiences and effects***

The HEA<sup>114</sup> concluded that the set of compacts presented by the institutions provided good evidence of the diversity that exists in the system, including in its two distinct subsectors. The distinctiveness that exists between Institutions within the sectors became more apparent during the process of dialogue. The HEA, however, saw limited evidence of effective institutional strategic prioritisation in draft compacts. It noted some evidence of institutions moving ahead rapidly on a number of fronts.

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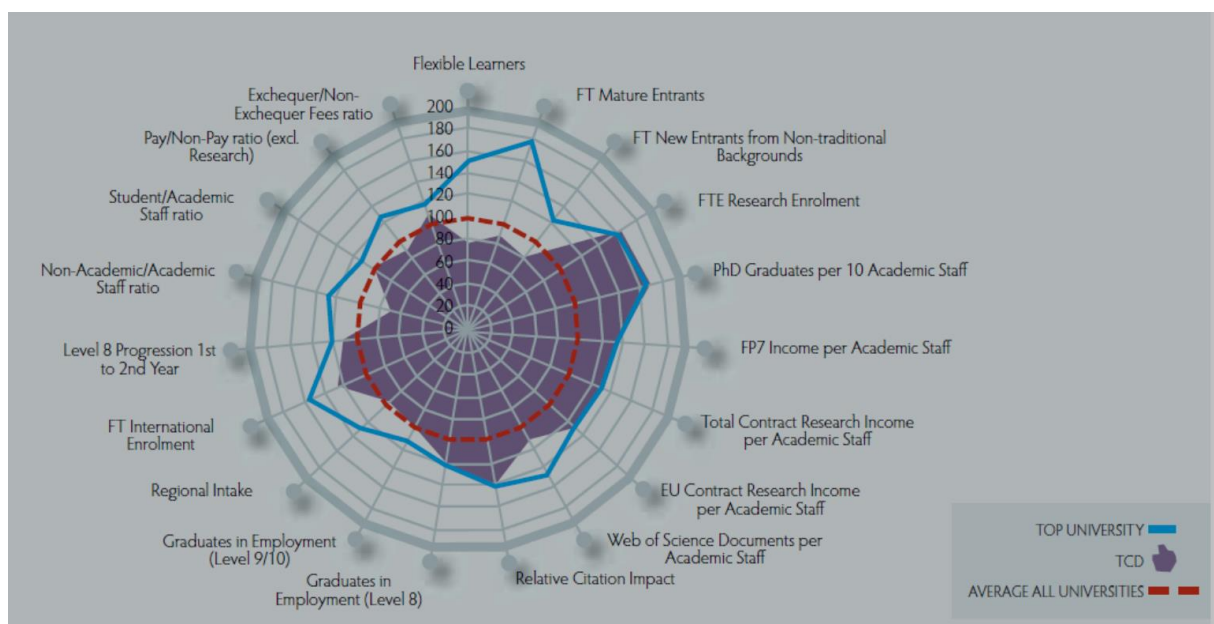
<sup>114</sup> See: [http://www.heai.ie/sites/default/files/final\\_volume\\_i\\_system\\_report\\_with\\_cover\\_letter\\_.pdf](http://www.heai.ie/sites/default/files/final_volume_i_system_report_with_cover_letter_.pdf)

But the HEIs' capacity for prioritisation was somewhat underdeveloped – with too many goals sometimes being listed by the HEIs in their draft compacts. Similarly only a small number of institutions reflected on their weaknesses as well as on their strengths in setting their objectives and targets. Individual institutions may want to refine their mid-term ambitions with the benefit of year one hindsight.

The HEA expects that a greater focus on outcomes-oriented objectives will become evident as the process develops, leading to fully verifiable interim and final targets, particularly with regard to increased student participation, improved quality of the student experience related to transition and progression and enhanced research and enterprise engagement outputs. In the next few years, the HEA expects to see a mix of quantitative, qualitative and milestone indicators being used by HEIs. It was noted that the activities being planned were poorly related or unrelated to these outcomes. Further, it was not evident how the activity was driven by the desired outcomes. While the use of some qualitative indicators was to be expected, there has been an over-reliance on qualitative indicators that do not have any clear means of verification.

In Volume II <sup>115</sup> of HEA's higher education system performance report the institutional profiles of individual HEIs were published for the academic year 2011/12. This was done by means of a large set of indicators, thus stressing the quantifiable activities and outcomes of higher education. The profiles were also aggregated to level of the subsectors (Universities; IOTs; colleges) and the HE system as a whole. These institutional profiles were developed by the HEA, in partnership with the Department of Education and Skills and the HEIs, as a means of supporting strategic planning at institutional and system levels in the early phases of the strategic dialogue process.

A spider graph picture of the profile of Trinity College Dublin (TCD) is shown below.



Source: HEA (2014), Higher Education System Performance Report.

[http://www.heai.ie/sites/default/files/evaluation\\_framework\\_short\\_2011-12.pdf](http://www.heai.ie/sites/default/files/evaluation_framework_short_2011-12.pdf) p. 39

<sup>115</sup> See: [http://www.heai.ie/sites/default/files/evaluation\\_framework\\_short\\_2011-12.pdf](http://www.heai.ie/sites/default/files/evaluation_framework_short_2011-12.pdf)

The picture shows where TCD differs from – outperforms or underperforms relative to – the average Irish university. On seven indicators it is the institution that shows the highest score (where the blue line borders on the purple area).

Trinity College (TCD) received € 495,000 in terms of performance-based funding, contingent on its compact.<sup>116</sup> This amount is roughly the same as University College Cork (€449,000). University College Dublin received €670,000, largely because it is a bigger institution. In its compact, TCD says its vision is to be “a university of global consequence”, and its performance agreement places heavy emphasis on research and internationalisation. On college partnerships it is committed to an innovation alliance programme with University College Dublin and two regional clusters on teacher training and creative arts. But it stresses “the governance of the regional clusters should be at a high level and not unduly intrude on legitimate university autonomy”. On access, it set a target of increasing flexible learners (part-time, distance, e-learners) as percentage of the student body from 12% in 2010/11 to 14% in 2016. In the same period it plans to almost double the intake from non-EU countries from 953 in 2010/11 (or 6% of the student population) to 1874 in 2016. It also says it will boost options for Irish students to study abroad. In 2010/11, 260 students participated in outward exchanges and it aims to increase this to 312 by 2016. TCD notes a new “online strategy” has been approved by the college board. It includes plans for enhanced use of technology in teaching, the development of new online programmes and the creation of a limited number of MOOCs or free, open-access courses. On research, it says “generating knowledge and transferring this knowledge is the core activity of TCD”. The university is implementing a new strategy on engagement with industry which “will create a step change in how TCD engages with industry and will ensure TCD is “open for business” in all aspects of our operation.”

In its internal discussions on the strategic dialogue between TCD and the HEA, the provost of TCD reported<sup>117</sup> that the HEA has accepted Trinity’s position, that nothing in the existing Performance Compact could be allowed to constrain College in its development of its Strategic Plan 2014–2019, and further, that the compact would be updated following the publication of the plan. On the topic of Trinity’s membership of the Dublin/Leinster Regional Cluster along with University College Dublin (UCD), National College of Art and Design (NCAD), Marino Institute of Education (MIE) and the Dún Laoghaire Institute of Art, Design and Technology it was noted that careful consideration must be given to safeguarding institutional autonomy under this framework.

As mentioned earlier, the initial focus of the strategic dialogue has necessarily been more on planning and establishing baselines, than on performance and outcomes. Financial penalties have not been handed out. In the first stage of the new compacts exercise, the performance budget was €5 million, based on a top-slice (circa 1%) of the HEIs’ core budget and its award was conditional only on the institutions’ engagement with the process. In the second stage, 5% and 2% will be at stake, on the basis of (1) performance against goals and (2) performance against other institutions. All of this will be in consultation/dialogue with institutions. The HEA feels that what is important is the process, not the money. The HEA does not wish to impose things; it intends to facilitate dialogue. In other words, for HEIs there is an earn back capacity – they can review their goals and improve performance in order to win back their part of the cake. Ownership is seen as crucial in the new performance agreements.

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<sup>116</sup> See: Irish Times (June 12, 2014), Colleges face financial penalties if they fail to meet new targets.

<sup>117</sup> Trinity College Dublin - Meeting of University Council (15 January 2014). See: [https://www.tcd.ie/committeepapers/council/download/UniversityCouncil\\_minutes\\_20140115.pdf](https://www.tcd.ie/committeepapers/council/download/UniversityCouncil_minutes_20140115.pdf)

Neither financial penalties nor rewards are seen as the ultimate outcome of the system. Rather, the aim is accountability for performance.

So far, the engagement between HEA and the sector has been positive and constructive. The compacts are based on a comprehensive approach, in which goals and targets are institutionally led within a national framework. These are agreed based on a dialogue process with the HEA acting as a facilitator and a critical friend. The first year of the compacts has been a learning process – particularly in relation to the quality of strategic planning by the HEIs. Negative points which have been raised include the observation that reform at a time of austerity is difficult to realise – particularly when conditions change rapidly and government realises that it cannot allow HEIs to go bankrupt. Another issue is the administrative burden the process puts on institutions. Despite this, most HEIs have welcomed the process. They value the strategic dialogue and regard it as a good learning experience.

It is too early to say whether the compacts will lead to improved performance – or indeed whether it is the compacts themselves that will have an impact on performance. Some HEIs regard the concept of compacts as a catalyst for change – for instance in relation to new collaborations with other HEIs – leading to clusters. The HEA has tested the plans submitted by the HEIs against previous institutional performance, national targets and policy. Progressively, over further iterations of the strategic dialogue, the HEA is confident that it can move to a stronger focus on performance against a limited number of agreed (national and institution-specific) targets, with funding implications<sup>118</sup>.

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<sup>118</sup> See: HEA (2014). Higher Education System Performance First report 2014 -2016. Report of The Higher Education Authority to the Minister for Education and Skills. At: [http://www.heai.ie/sites/default/files/final\\_system\\_report.pdf](http://www.heai.ie/sites/default/files/final_system_report.pdf), p. 9

## England

### *The system*

There are two main types of HE providers in England: universities and colleges of higher education (including university colleges, art and music colleges and other HE colleges) as well as technical colleges (colleges of further education) that provide HE validated by HEIs. There are some 90 universities in England; 40 other HEIs carrying out teaching and research, and around 220 colleges of further education (FE) where teaching (often only to associate degree level) is provided in non-research environments.

### *The policy context*

An important shift in the nature of higher education financing began in 2012 with the decision to remove state funding for 80% of courses (only STEM courses retain their funding) and replace that with a student fee (capped at £9000 and averaging £8,610 in 2013).<sup>119</sup> The reform is phased over the three years from 2012, and in 2015 the teaching grant will have shrunk to approximately 22% of its previous level (from £4.3bn in 2011 to £1bn expected for 2015). This decrease has been compensated by a substantial increase in fee income for all institutions.

The main tool for the government to steer universities, in particular in their research, lies in the grants made through the Higher Education Funding Council for England (HEFCE). The HEFCE block grant is allocated to HEIs on the basis of a mixture of formula and specific allocations. The teaching part of this grant is driven by student numbers (and is currently reducing to a total of one-fifth of the historical level), while the research element is largely performance-driven. There are no individual institutional level performance contracts.

### *The funding model*

The teaching mission of English universities is largely funded on the basis of student numbers, using a formula. This formula is not performance-based. It produces a total block grant for teaching that is roughly the same size as the block grant for research. The research funding formula is fully performance-based and will be presented in this section.

This section will be discussing the effect of the research assessment process that underlies HEFCE's research allocation mechanism. In 2013, HEFCE allocated a total of £1.6bn (c. €2bn) to English HEIs for their research activities. £1bn was allocated on the basis of the Quality Research element, with the remainder supporting additional research costs (those additional costs associated with working with charities, businesses, research students and in London). The 220 FE colleges in receipt of HEFCE teaching support do not receive research funding and are not further discussed here.

Public research funding for universities in England is provided through a *dual support system* in which universities receive a core (HEFCE) grant for their research activity based on their assessed research performance, as well as specific project-based grants from seven (UK) government Research Councils. The total recurrent grant to English HEIs for research has been static in recent years at around £1.5bn, whilst the Research Councils are responsible for investing some £2.6bn annually in the science base. This funding, allocated through the Research Assessment Exercise (RAE) (and from 2015 the Research

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<sup>119</sup> <http://www.timeshighereducation.co.uk/Pictures/web/w/c/k/annual-tuition-fee-data-for-full-time-courses-at-uk-institutions-2013-2014-01.jpg>

Excellence Framework [REF]), represents about 6% of total England HEI income, and 20% of research income from all sources.

In common with other dual systems, the UK dual system is intended to ensure a healthy, dynamic system. Core funding ensures that universities have continuity of resources to invest and renew their research activities; project-based funding allows those undertaking the most excellent research to increase the overall volume of their research activity.

There is an issue that science policy is partly devolved to HEFCE and is also partly a UK issue via the research councils, but UK and English science policies are both the responsibility of the same ministry (currently the Department of Business, Innovation and Skills) meaning that they are very tightly co-ordinated. Although all funding councils (covering England, Wales, Scotland, and Northern Ireland respectively) in the UK require their institutions to participate in the UK-wide research evaluation, each funding council has autonomy in deciding how to allocate funding on a performance basis (i.e. the particular formula applied).

In England, this is done by quality-related (QR) funding, a Performance Based Funding measure, that makes allocations to individual institutions on an annual basis. The introduction of QR has had two aims since the outset: firstly, to raise the overall level of performance in the system by incentivising excellent research, and secondly, to support the development of critical mass in the system by concentrating funding increasingly onto only the most excellent units. Universities invest their QR funding to maximise their project funding; since 2004, Research Council project funding has been made at 80% of “full economic cost” (including full overhead), which provides an additional reward to the university as well as the research group for winning increased project funding resources.

Science policy in England, since a 2001 White Paper, has had the overall goal of making public investments that fund excellent research in ways that preserve the overall health of the science base, and at the same time maximise the contributions that that research makes to society and the economy as a whole. The idea of ‘impact’ was initially developed by the Research Councils who began requiring those applying for funding to develop ‘Pathways to Impact’ to demonstrate *ex ante* how they had planned to create a demonstrable contribution to society and the economy<sup>120</sup>. From 2008, the Funding Councils across the UK also adopted the idea of impact as one of their criteria for performance-based funding from 2015. The Funding Council notion of impact is “all kinds of social, economic and cultural benefits and impacts beyond academia, arising from excellent research”<sup>121</sup> (p. 4).

The QR element (the PBF element for research) is allocated on an annual basis on the basis of a periodic exercise. In any one period, universities are allocated funding based on the scores their research units received in the previous round, although the levels of allocation are continually evolving to increase the rewards for more excellent research, meaning that institutional allocations change every year.

The periodic research evaluation process dates back to the Research Selectivity Exercise, and is now called the Research Excellence Framework. The basis of the exercise is that a university is divided into subject based units; each unit is judged on the basis of its research quality, and those judgements are

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<sup>120</sup> <http://www.rcuk.ac.uk/ke/impacts/meanbyimpact/>

<sup>121</sup> [http://www.ref.ac.uk/media/ref/content/pub/decisionsonassessingresearchimpact/01\\_11.pdf](http://www.ref.ac.uk/media/ref/content/pub/decisionsonassessingresearchimpact/01_11.pdf)



translated into figures on which performance-based allocations are made. Initially, units were given a single score, but from 2008 units were given a profile, which is the percentage of the unit judged to be at each of five levels (world leading, world class, internationally excellent, nationally excellent, not excellent).

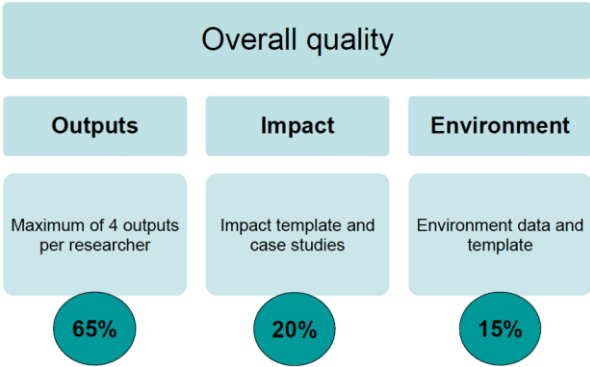
The RAE is the largest research assessment system in the world, and assesses research quality through a peer review methodology in which disciplinary panels review evidence presented by units of assessment in three areas: research outputs, the research environment and impact. For the 2013 REF, panels were able to use bibliometric data to help inform their decision-making, although every research output (journal article) submitted is read and assessed on the basis of its intrinsic quality rather than its bibliometric score.

The major component has always been a selection of research outputs from eligible researchers. Each unit selects which staff members to submit from those staff employed at that university at the census point; staff need not habitually be members of the departments which correspond to the unit of assessment if their research fits better with another assessment unit. A submitted staff member can submit up to four research outputs (typically journal articles) to which they have contributed in the review period, and each of these is reviewed by panel members.

The second element that is assessed is the research environment offered by the unit of assessment. The environment score is currently calculated on the basis both of the number of research students (PhDs) within the department as well as a qualitative submission ('REF5'). This report, whose length varies depending on the number of staff, allows units to present in free text the unit strategy, its people, the infrastructure, their development plans and their claims to contribute to a healthy science base. (There is an effect in this calculation that publicly funded PhDs in the UK are allocated by Research Councils to Doctoral Training Centres on a multi-annual basis, which means that this figure is at least partly rewarding public funding (a so-called 'Matthew' effect).)

The third element of the calculation is currently impact, although prior to 2013 the third element covered 'Esteem Indicators'. One of the main changes from the RAE to the REF was that for the first time each unit also submits on Impact Case Study per ten submitted FTE, which demonstrates how research from the university has created societal impact during the Review Period.

The overall profile for UoAs will be 20% comprised by the assessed 'impact' of their work, 65% by output quality and 15% by a statement on the research environment (the different elements – although assessed separately – are combined into an aggregate score. The assessment framework for evaluating the overall quality of research is shown below:



The funding weight for research outputs in 2014/15 is calculated on the basis of 3 points per 5% rated as 4\* and 1 point per 5% rated as 3\*, with no funding for the other levels. The total funding is then subject to a multiplier reflecting its relative cost in three bands: laboratory subjects (e.g. engineering) (1.6), intermediate subjects (e.g. geography) (1.3), other (e.g. history) (1). The total QR an institution receives is calculated as the sum of the total adjusted funding weights of its constituent departments; this institutional funding weight is then used to calculate the share of the £1bn mainstream QR received, with the other elements calculated separately.

### ***Performance based funding for research: experiences and effects***

In England, performance-based funding for research has been used as a means of improving the level of excellence of the system as a whole. There have been three parallel dimensions to this:

- *Selectivity* - allocating QR funding only to those units of assessment judged to be excellent, thereby providing an incentive for all researchers to be excellent and improve their performance.
- *Concentration*, which involves a step-wise raising of the minimum level at which excellent research is funded, to ensure that there is no dilution effect or loss of critical mass.
- *Moderation* to ensure a research system coherence and health by ensuring that there are not wild levels of fluctuation (particularly steep falls) in the overall levels of resources received by universities from one year to the next.

There has been a steady upwards emphasis in the way that outcomes are rewarded through the QR formula. In 1996, even nationally-recognised research was rewarded at ¼ the level of world-class research; this was removed in 2002, in 2003 funding was removed from nationally-excellent research, in 2009 from internationally recognised research, and most recently in 2012 from internationally-excellent research. From 2012, only the highest categories, world-leading and world class research have been funded.

The overall effect of this has been to concentrate QR funding on a relatively limited number of institutions; of the £1.6bn allocated annually by HEFCE 10 of the 130 institutions receive one-half of the funding; the top four institutions receive 30%, and this concentration has increased over time. Nine institutions receive no QR funding (all HE colleges), and 49 receive less than £1m.

It is safe to say that the RAE has been a huge driver of university research behaviour, and from 2010, the changes reflected in the REF have also begun to have an influence. From 1996 to 2001, there was clearly a substantial increase in the assessed quality of staff in English universities. In 1996, just 11% of staff were working in departments adjudged as being internationally leading (5\*, the top level of the old scale), and by 2001 this proportion had increased to 19%. Although the break in assessment methodology in the 2008 makes it difficult to draw equivalence, by 2008, 54% of staff were assessed as being world leading or internationally leading (either 3\* or 4\*, the top two levels of the new scale). Likewise, staff rated as doing work less than nationally regarded virtually disappeared, from 6,000 in 1996 to less than 700 in 2008.

The process has increased England's overall publication levels by embedding a culture of research management across all HEIs, with every academic producing at least four peer reviewed articles per

review period. It is thus fair to conclude that, judged on the basis of the scores and the absolute outputs, England's research assessment approach has been highly effective in raising research performance across the sector as a whole.

The process has been controversial from the outset because of a number of effects of the chosen approach. There is clearly a high cost burden to institutions in co-ordinating their research submissions, and there are questions about the extent to which these costs reflect a management of research outputs (an unproductive cost) rather than a management of research activities (a productive cost). There have also been controversies around the emergence of an academic transfer market, in which a limited number of perceived 'star players' have been offered substantial incentives to move institutions in order to allow those universities' units to make use of their research outputs (rather than seeking to use them to improve the overall research environment).

There have also been questions raised about the extent to which the RAE and REF actually capture *research quality* and that what they actually reward is the way power and prestige are distributed in academic fields. Despite an impressively objective-looking methodology, the results do not deviate substantially in aggregate from what indicators such as bibliometrics, h-indices and past research funding would indicate, nor those based on more subjective esteem measures. In part, this is a consequence of the exercise's legitimacy (and the huge costs it brings) being dependent on universities and academics finding the results plausible, and that perception is of course shaped by power and prestige as much as research quality.

The REF is clearly a work in progress; the results of the assessment are launched on 18<sup>th</sup> December 2014 and will only be used for funding allocations from 2015. It is too early to say how the REF will work. There have been a series of changes in the REF, including a shift to a reduced set of panels, and so it is not clear what the effects will be, either for individual institutions or for the system as a whole. Assuming that the current funding levels are carried forward, and the principle of moderation continues to be applied, it appears likely that the REF will act as a continuation of the trends set in motion by the RAE.

The effects of the REF impact assessment element look promising. Universities and academics are triggered by the importance of the REF and have submitted 6975 case studies, with many focusing on the long-term contribution of research to society. This is offering every discipline the opportunity to make its case in its own terms. An evaluation of the REF by Rand Europe is now underway.

Clearly, from a policy perspective, the RAE has been a success; there is no serious discussion about abandoning it, and in 2008-09, a detailed policy discussion about replacing it with a bibliometrics-based system came to the sensible conclusion that that would be more arbitrary and less useful than the current system. It is clear that in its own terms, the RAE has succeeded in delivering the long-standing science policy goals of government, initially to improve excellence, then to build critical mass, and most recently, to create impact and socio-economic benefits from that research. There have been clear improvements in the outputs targeted by the system; the relative excellence of individual researchers in England has improved. England has reversed a long-term decline in scientific output against global competitors and has a successful research base.

The RAE has worked effectively to drive segmentation or profiling in UK universities in a nuanced, evolutionary and bottom-up way. The binary divide was formally removed in England's Higher

Education in 1994 when polytechnics became full universities, but it is clear that the allocation of QR funding has supported the development of a tiered university system structure based on their relative research intensity. Universities have been able to upgrade their relative research intensity (e.g. Manchester University has moved into the elite group) or choose instead to focus on research-led teaching.

There has been a huge expansion of both the depth and breadth of the research base, and this has happened efficiently, with the government funding concentration. Universities have been able to use their block grants more efficiently, most notably those institutions and also units which have managed to go from having only public funding for teaching to being in receipt of QR funding<sup>122</sup>.

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<sup>122</sup> In 2007 Bishop Grosseteste University, Rose Bruford College, Arts University Bournemouth, Newman University, University of St Mark and St John, Trinity Laban Conservatoire of Music and Dance received £0 QR funding. In 2014 all were in receipt of (small amounts) of QR funding.

## Scotland

### *The system*

Scottish higher education is composed of two sectors – universities and colleges. There are 19 universities (including an Open University, a Rural College, an Agricultural university, an Art Academy and a Conservatoire) and 25 colleges that merged<sup>123</sup> into 13 College Regions between 2012 and 2014.<sup>124</sup> These institutions vary in size and profile with the colleges having a strong regional and local function. The universities host 216,000 students – 162,000 at undergraduate level and 54,000 at postgraduate level – with the smallest university enrolling 1,000 students and the largest 25,000. The number of college students has decreased from 347,000 in 2010 to 239,000 in 2013. The number of university students demonstrates a small continuous increase in accepted undergraduate and postgraduate students.

Scotland's colleges and universities offer a diverse range of vocational and academic courses and are renowned for their world class research. With centres located throughout the country from the most rural settings to the heart of major cities, higher education institutions offer a wide selection of qualifications and disciplines, including higher national diploma, Bachelor's, Master's and PhD programmes. The higher education sector plays an important role in the government's lifelong learning and social inclusion agendas. The Scottish government works closely with all colleges, universities and their key stakeholder organisations to achieve the outcomes for learners and for Scotland which are set out within the National Performance Framework.

The universities have been autonomous, self-governing public institutions since 2003. The University Act of 2011 (article 2) stipulates that a university must ensure equal interaction between research and education, perform on-going strategic selection, prioritisation and development of its academic research and disseminate knowledge (including to the university colleges and academies). Moreover, it must collaborate with external partners and contribute to the development of international collaboration. It should encourage its employees to take part in public debate.

The higher education sector is funded by the Scottish Government via the Scottish Funding Council (SFC), acting on behalf of the Scottish Ministers, which is responsible for distributing funding to individual institutions for teaching, research and associated activities.<sup>125</sup> Overall strategic direction for the sector is provided by the Directorate Employability, Skills and Lifelong Learning. This role is partially exercised through providing annual guidance to the SFC. At the same time, the directorate liaises closely with bodies such as Colleges Scotland, the Scottish Qualifications Authority, and other UK government departments.<sup>126</sup>

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<sup>123</sup> In the college sector, 37 colleges (in 2011, 43 before) merged into 27 Colleges spread over 13 College Regions by 2014 initiated by the Post-16 (Scotland) Bill (The Scottish Government, 2011).

<sup>124</sup> <http://www.universities-scotland.ac.uk/>; [http://www.collegesscotland.ac.uk/colleges-scotland-homepage](http://www.collegesscotland.ac.uk/colleges-scotland-homepage;);  
<http://www.collegesscotland.ac.uk/colleges-scotland-about-us/college-mergers>.

<sup>125</sup> <http://www.sfc.ac.uk/>

<sup>126</sup> <http://www.collegesscotland.ac.uk/colleges-scotland-homepage>, and <http://www.sqa.org.uk/>

### *The policy context*

In 2007 the Scottish government initiated a large transformation process to make Scotland a more successful country. Higher education was regarded as playing a central role in making Scotland wealthier, fairer, smarter, healthier, greener, safer and stronger (Universities Scotland, 2007). In addition, higher education was seen to have a substantial impact through a high public and private rate of return, building on an excellent track record and operating in an efficient manner. However, a period of steady budget growth has now come to an end and from 2010 onwards the higher education sector has been asked 'to help' meet the £1.3 billion reduction in the Scottish public budget. For example, the 2011/12 budget for the college sector dropped by 9% compared to the year before.

The government's strategic agenda for Scottish higher education focuses on the following principles: open access to all qualified students, flexibility in provisions to meet the diverse needs of students and business, a learner centred funding system based on transparency and access, diversity in the missions of universities and colleges with a focus on areas where they excel, quality and excellence as key determinant aspects within any activity area, strive for international recognition, and organise strong, properly governed institutions that are financially stable, aiming for innovation and a high level of collaboration. One of the measures to make the system more efficient (to reduce managerial overheads and overlaps in provision, as well as to better align post-16 learning with jobs and growth) concerns organisational mergers in the college sector along the lines of the 13 Scottish regions. Universities, together with the Scottish Funding Council, have looked to reduce overlaps in provision.

Based on the Scottish government priorities and ministerial letters of guidance, the SFC has seven strategic aims for Scottish higher education:

- Improve access to HE for people from the widest possible range of backgrounds;
- High quality, efficient and effective learning-learner journeys are short, efficient and effective as possible and learners experience the highest quality of learning and teaching and achieve successful outcomes;
- Right learning in the right place – secure coherent provision of HE;
- A developed workforce – learners who have the skills, knowledge and entrepreneurial spirit to get a job and progress their career; and institutions that respond to the skills needs of the economy locally and nationally;
- A research base that is internationally competitive and improving its reputation and standing in the world;
- University-industry collaboration – deliver a step-change in the engagement of business and industry with universities, removing any barriers to the exploitation of research for economic and wider social benefit;
- Sustainable institutions – ensure high quality of governance and management of institutions delivering long-term and financial and environmentally sustainable interactions.

Another outcome of the process towards "building a smarter future" for Scotland was to initiate a simplification of the funding system, as it was unresponsive to changing demographic needs, was driven by historical patterns, had no performance incentives and was unnecessarily complicated. The government wanted to ensure that public funding takes into account regional needs and has a 'simple' link between the funding allocated and the outcomes to be delivered in return.

## The funding model

### The college sector

The annual SFC budget for the colleges, a total of £505 million in 2011/12, accounts for about 73% of colleges' overall income (excluding bursaries and other student support funds). The remaining 27% comes from tuition fees and education contracts (£110 million), and other revenues (£74 million). The funding model for colleges is mainly a historical funding formula based on targeted numbers of WSUMS (Weighted Student Units of Measurement: student units are measured in weeks with 1 SUM reflecting 40 hours of learning). Based on an average price to deliver a course, different weights have been calculated for 5 subject groups using 5 different tariffs (Scottish Funding Council, 2014). For example engineering has a weight of 1.26 and business of 0.84. In addition, the WSUMS can also differ by region or institution, leading to a different price per student between institutions in a given subject.

Annually, the SFC sets a target for the total number of WSUMS for the whole college sector, which is specified per subject group and institution. These targets are predominantly set on the basis of historical developments. However, with the implementation of the Outcome Agreements (discussed in detail below) the distribution of these targets may change according to regional labour market needs as well as national priorities. In general, colleges do deliver slightly more WSUMS than they are required to (Audit Scotland, 2013). This does not normally lead to extra funding. However, if institutions do not meet their targets, the government will claim back funding.

There are some funding premiums for students from deprived areas. An annual budget of £6.75 million is allocated to colleges serving the most deprived population areas (based on students from particular postal code areas). In addition, colleges serving students in particular rural areas receive support from a separate £7.75 million budget.

From 2015/2016 onwards, the methodology used to calculate the teaching budget for colleges will be simplified. Instead of WSUMS, the main unit of calculation will be Credits which calculate expected student effort only. In the new model, 1 credit represents 40 hours of learning. Credits will be rewarded according to 5 different price groups as indicated in the table below. However, unlike the WSUM model, the funding no longer differs between institutions and/or regions.

Price group	Price group	Price group	Price group	Price group
1	2	3	4	5
£162	£216	£271	£374	£360
Proportion of credits in each group				
21%	39%	30%	1%	8%

Basically the whole teaching budget is related to the Outcome Agreements, which means that colleges need to better gear their education provision towards national priorities and regional labour market needs.

## the university sector

The overall public budget for universities, about £1.1 billion, is allocated in three major components:

- The teaching grant (app. 60% of the government grant), mainly funding the number of study places (using different price categories);
- The Research and Knowledge exchange grant (app. 25%), composed of the research excellence grant, the research postgraduate grant and knowledge exchange grants;
- Strategic projects, capital, equipment and innovation grants (app. 15%).

The *teaching grants* are allocated to universities on the basis of Full-Time Equivalent (FTE) Students distributed over 12 different funding groups using in total 6 different funding tariffs. SFC sets annual targets of FTE students to be taught, primarily based on historical distributions. FTE students relates to numbers of students enrolled and not to successful completion of credits or degrees. In the coming years, the FTE student targets will be more closely linked to the Outcome Agreements individual universities have with SFC, meaning that student numbers and the composition of the student body will gradually develop in line with government priorities and labour market needs. If a university meets its target plus or minus 5%, it will receive the agreed budget allocation. Otherwise the budget may be reduced (or increased) respectively, although the latter is not an easy process. In subjects with limited access places, such as medicine, dentistry, etc., institutions that enrol either fewer or more students than agreed will be financially penalised accordingly.

Universities' *research funding* consists of three main sources:

- A block grant given by the Scottish Funding Council (in 2013–2014 about £264 million);
- External research income competitively awarded from the UK-wide Research Councils, National Academies, foundations and international sources (£610 million in 2011–2013; about 14% of what all UK HEIs won and representing about 22% of total university revenues);
- External knowledge exchange income from business, industry, patenting, etc. (£387 in 2011–2012).

The block grant provided by SFC used to follow a negotiation-based allocation model. However, these allocations are now in the process of being tied to the UK REF process (Research Evaluation Framework), with the performance of university research groups being assessed in the UK REF system. The REF judgements will be used to determine “appropriate funding levels” for the different universities and their constituent parts. In addition, universities also have to include a chapter on their research strategy and ambitions in the Outcome Agreements. This implies that their research ambitions and performance will have to be aligned with national research priorities.

### ***Performance agreements (Outcome agreements)***

Outcome agreements are a three year commitment between the SFC and individual HEIs. They have been introduced as a key process in delivering and demonstrating universities' impact from Scotland's public investment in the sector. In September 2011, following a Ministerial Letter of Guidance, the SFC developed its approach to outcome agreements. The approach acknowledges the diversity of the Scottish higher education landscape, and is intended to maintain this diversity as it is regarded as a strategic advantage and hence has been incorporated into the outcome agreement process.



During the spring and summer of 2012 SFC worked with all HEIs to develop a first set of agreements. Whilst discussions allowed for exploration of the whole range of institutions’ missions as well as the diversity of missions across the sector as a whole, in this first year there was a common, consistent focus on ministerial priorities, including:

- Access for people from the widest possible range of backgrounds;
- Efficiency of the learner journey and improved retention;
- Improved university and industry collaboration and the exploitation of research;
- Equality and diversity;
- The coherence of the pattern of provision, and;
- The entrepreneurial and employability skills of graduates.

Outcome agreements set out what individual colleges and universities plan to deliver in return for their funding from SFC. The outcome agreements set annual targets about the priority areas which individual institutions will work on. In 2014–2015 there were four main areas in which institutions defined their aspirations and achievements: opportunity, innovation, graduate employability & enterprise, and sustainable institutions. Within these areas universities have defined their indicators and achievements. In the area of ‘opportunity’, for example, the following indicators have been chosen: admission targets for students from articulation routes, increase participation in evening degree programmes, development of a contextual admission systems for particular postcode students, university-college collaboration projects with HND<sup>127</sup> graduates, or the offering of fully funded student places for target students.

The table below provides an example of the priority areas and accompanying indicators. It concerns the agreements for 2014/15.

**Table 1: 2014/2015 performance outcome areas and some examples of issues/indicators**

Areas	Examples of issues/indicators
<b>Opportunity</b>	Admission targets for students from articulation routes
	Increase participation in evening degree programmes
	Develop a contextual admission system for particular postcode area students
	University-college collaboration projects for HND graduates
	Offer some fully funded student places for target students
<b>Innovation</b>	Relative research grant and contract income
	Share of UK competitive research council income
	Explore knowledge exchange in particular focal areas
	Use innovation vouchers for particular science to business collaborations
<b>Graduates employable &amp; Enterprising</b>	Utilise European Structural Investment Funds to develop research capacity
	Number of first degree qualifiers
	Number of undergraduate entrants in STEM courses

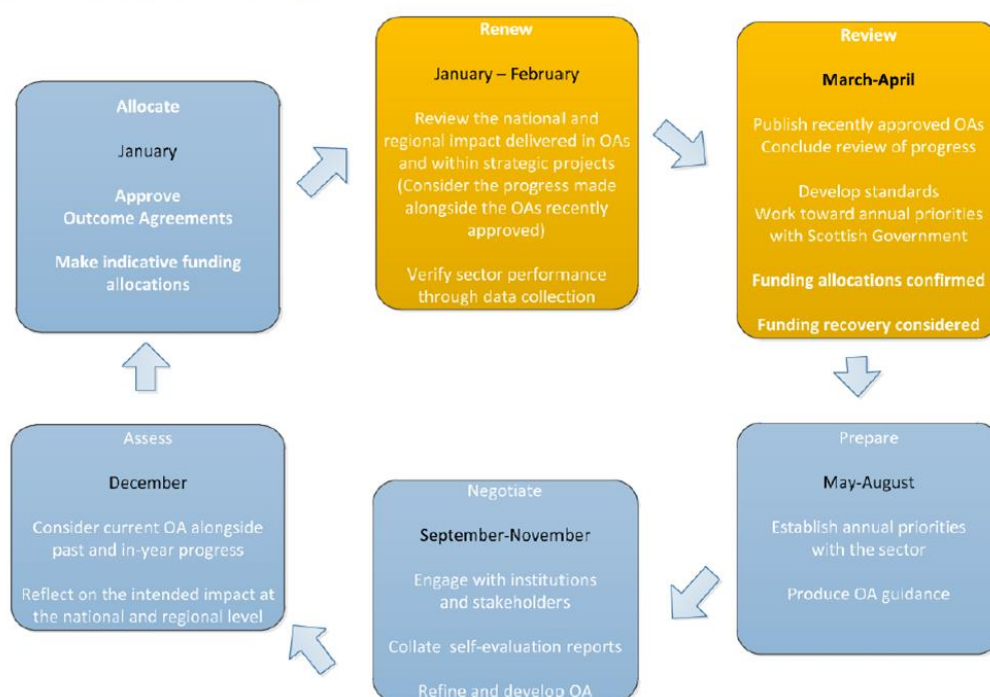
<sup>127</sup> A Higher National Diploma (HND) is a qualification that is considered equivalent to the second year of a three year university (hons.) degree course. It is a semi vocational / semiprofessional qualification, usually studied full-time, over two to three academic years.

Areas	Examples of issues/indicators
	Develop an on-campus “employability and enterprise hub”
	Develop an employability award as part of an alumni mentoring programme
	Replace a master thesis by a work-based project
<b>Sustainable institutions</b>	Operating surplus/deficit as % of total income
	Total income
	Non-SFC income as % of total income
	Notional energy emissions per student FTE
	Replacement of steam heating system
	Carbon management plan

The outcome agreements follow an annual cycle, as depicted in Figure 1. One track relates to past activity and concludes with SFC considering decisions in relation to sector progress (*the review cycle* - orange track). The other track relates to the negotiation of future outcome agreements or updates to the three-year outcome agreement and concludes with SFC taking decisions on funding allocations (*the negotiation cycle* - blue track). The review provides the information for SFC’s decisions in relation to funding recovery – concluding this track of the cycle – and helps to identify SFC’s priorities for the next round of outcome agreements.

Following on from this, SFC is able to decide its guidance to the sectors and can set out its plans for engagement with institutions in relation to both outcome agreements and on-going strategic projects. This then allows the outcome agreement managers to negotiate the impact SFC wants to achieve, concluding the negotiation with the submission of their assessments of individual outcome agreements to SFC. From these assessments, SFC is able to make its decisions on funding allocations – concluding the second track of the cycle.

**Figure 1: Outcome agreement annual cycle**



Mindful of the fact that the overwhelming majority of institutional funding will continue to be formula based, to conclude the *negotiation cycle*, in January each year SFC will assess the newly submitted outcome agreements and agree funding allocations. SFC will determine the funding to institutions based on the quality of the agreements submitted along with an assessment of the individual and collective progress being made to date against Scottish Government priorities. Basically the full budget for teaching and the basic research operating grants are dependent on the outcome agreements. In these initial years, the financial impact of the outcome agreements is limited. Institutions may win or lose a maximum of 1% of their funds each year. At the moment the outcome agreements are therefore predominantly used to refine the budget without dramatic changes or consequences. Currently there are some separate budgets (funding pots) for teaching priorities that are also increasingly linked to regional employment needs and the outcome agreements. However, in the future it is envisaged that both universities and colleges may gain or lose larger parts of their budget, dependent on whether they perform in line with national priorities, their own ambitions or regional needs.

In particular, SFC will assess outcome agreements against the extent to which they:

- Contribute towards achieving Scottish Government priorities;
- Respond to the needs of learners, communities and employers;
- Improve Scotland's educational performance;
- Improve organisational efficiency.

When considering progress, the SFC will establish evidence of under-delivery from a combination of the statistical data available, the progress reported by institutions and the information available from the outcome manager (every region has an outcome agreement manager) and key stakeholders. It will be the responsibility of an institution to make its case in relation to its progress, so that the decision making process is informed by a full and accurate assessment of progress submitted by the institution. If there is evidence of under-delivery, the SFC will take as its starting point the relationship between the scale of under-delivery, the duration of under-delivery and the relative strategic importance of outcomes that have not been delivered. The SFC may then take four types of action, which are not mutually exclusive:

- Establishing an improvement plan in relation to specific areas of under-delivery with no impact on funding;
- Reducing funding in future years commensurate to the level of under-delivery;
- Applying funding recovery (reclaiming the money provided for non-delivered results);
- Applying a penalty (on top of funds reclaimed).

Although Outcome Agreements are three-yearly, there is still a requirement for universities to account for the funding received in the preceding year and submit an annual self-assessment progress report. It is a brief factual report (which must not exceed five pages), comprising:

- A reflection on available audited statistical data;
- Qualitative and quantitative progress in the preceding year, including specific reference to published milestones (recognising that, for the year in question, audited statistical data will not be available and that the SFC relies on institutions' own data at this point in time);
- Early thoughts on progress in the current year (for example, towards recruitment targets, any internal evidence on retention);
- Rationale for any proposed changes to targets in the draft outcome agreement.

The three-year output agreements can be adapted every year (e.g. based on (lack of) progress). The guidelines from the SFC, published every year, contain among other things priority areas (the seven strategic aims for Scottish higher education). Each of these priority areas / strategic aims are broken down into: 1) national measures (22 in total), 2) outcomes, and 3) institutional measures. There are technical definitions for each national measure, sufficient to allow each institution to replicate the SFC figures and baselines.

### *Experiences and effects*

With respect to the outcome agreements, the general impression is that Scottish colleges and universities are very engaged. Downes, Convener of Universities Scotland, stated "I am struck by just how much is going on (so much that a summary needs to run to 30 pages in order to convey a real sense of it)"<sup>128</sup>.

There is a system-wide dialogue between institutions, regions, sectors and SFC on linking higher education priorities to the national priorities of Scotland. The institutions respond to the strategic priorities set by the government. Many universities and colleges, for example, have made commitments with local, regional or national partners and there is a stronger focus on widening participation with a tangible increase in the number of low SES students recruited. Institutions have come up with innovative teaching methods and apprenticeship programmes to prepare students for the labour market. Institutions also seem to be more engaged in analysis, monitoring and strategy formulation. Higher education institutions have also developed initiatives to become more environment friendly in their use of natural resources.

Therefore, we would conclude that the introduction of the steering philosophy that includes the outcomes agreements appears to have altered the institutions' attitudes. However, the (long term) impact of the new approach is not known yet. While the institutions are responsive to the national priorities, it is unclear, or too soon to tell, to what extent universities and colleges are able to actually realise their ambitions and agreements. "Strategic developments at a national level such as the establishment of additional funded places for widening access and articulation, coupled with institutions' own ambitions, are already starting to deliver increased levels of achievement. But it will not be until the next couple of years, as formal monitoring data is collected and published, that the full impact will be evident" (Universities Scotland).<sup>129</sup> So far it is unclear how and to what extent the SFC, or the government, will act based on their assessments of the outcome agreements.

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<sup>128</sup> <http://www.universities-scotland.ac.uk/uploads/publications/Universities%20Scotland%20Outcome%20Agreements%20Summary%202014.pdf>

<sup>129</sup> Ibid.

Although this type of system steering is still developing, one might even say it is still in its infancy, so far there have been three rounds of outcome agreements and some changes have already taken place. For example the process now allows for institutions to define their aims and their contribution to national outcomes in ways that are appropriate to their institutional missions. At the same time, there are concerns about the amount of bureaucracy and the 'pace' of the process: "It is no exaggeration to say the new process between institutions and the SFC has moved with some pace; negotiations on the second round of agreements started within weeks of signing off the first." (Universities Scotland).<sup>130</sup> The idea is to move to a more relaxed time frame. "The plan is to move to triennial reporting and reviews. It will make the outcome agreement process less bureaucratic and allow staff at all levels to focus on delivery. Three years is a much better timeframe for reporting; as data becomes available this will give institutions, the SFC and Government a chance to see how new initiatives are enabling HEIs to promote Scotland's wellbeing and success" (Universities Scotland).<sup>131</sup>

After three rounds of outcome agreements, Universities Scotland summarises the new approach as follows:

"Outcome Agreements are still a new process for institutions, for the Scottish Government and for the Scottish Funding Council. Their place at the heart of the funding relationship with Government has driven rapid refinement of the process to establish an effective way of working together to produce agreements that represent a good return on the public investment in institutions. The agreements support institutional ambition whilst simultaneously respecting the autonomy of 19 very different higher education institutions with their own missions, strategic priorities and goals."

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## United States of America: Tennessee

### *The System*

There are two systems of public higher education in Tennessee, the University of Tennessee (UT) system and the Tennessee Board of Regents (TBR) system. There are also several independent (private) colleges and universities<sup>132</sup>.

The UT system<sup>133</sup> includes the campuses at Knoxville, Chattanooga, and Martin, the Health Science Center at Memphis, and the state-wide Institute of Agriculture and Institute for Public Service. The UT system has a presence in each of Tennessee's 95 counties. State-wide, the University provides education at undergraduate and graduate levels, as well as professional schools. The UT system has about 49,000 students and over 355,000 alumni. The UT System Administration Strategic Plan<sup>134</sup>, launched in June 2012, establishes a vision and direction for the next five years, with the following goals:

- Enhancing educational excellence;
- Expanding research capacities;
- Fostering outreach and engagement;
- Ensuring effectiveness and efficiency;
- Advocating for the University of Tennessee System.

The TBR system<sup>135</sup> includes comprehensive four-year universities, all of the state's community colleges, and all of the Colleges of Applied Technology (TCATs). TCATs provide technical training for workers to obtain the technical skills and professional training necessary for advancement in the job market and are not classified as "higher education"<sup>136</sup>. The TBR system consists of 46 institutions with a combined annual enrolment of over 200,000 students. The TBR's six state universities, 13 community colleges, and 27 TCATs offer classes all of Tennessee's 95 counties. The TBR system is a \$2.2 billion per year enterprise. It was created in 1972 by the General Assembly as the governing body of the State University and Community College System of Tennessee.

The Tennessee Higher Education Commission is the state's coordinating agency for higher education. Guided by the Public Agenda for Tennessee Higher Education, THEC oversees an array of finance, academic, research and consumer protection initiatives that promote student success and support the State's completion agenda for postsecondary education. THEC actively seeks to develop policy recommendations, programmatic initiatives, and partnerships that increase educational attainment in the state while improving higher education access and success for all Tennesseans. It provides the funding formula for institutions. The Board of Regents and the UT Board of Trustees are coordinated by the Tennessee Higher Education Commission. The composition of the TBR is set forth law<sup>137</sup>.

The *Tennessee Higher Education Fact Book 2013-2014* provides a wealth of data on the system, including information on student participation and student success, as well as explanations about the

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<sup>132</sup> See: <http://www.ticua.org/>

<sup>133</sup> See: <http://www.tennessee.edu/>

<sup>134</sup> See: <http://president.tennessee.edu/strategicplan/>

<sup>135</sup> See: <http://www.tbr.edu/about/default.aspx?id=804>

<sup>136</sup> See: <http://www.tbr.edu/schools/default.aspx?id=2654>

<sup>137</sup> See the Tennessee Code Annotated 49-8-201, available at <http://www.lexisnexis.com/hotttopics/tncode/>

funding formulae. Table 1 show the 2013 enrolments (headcount and Full-Time Equivalent) by system.

**Table 1: Enrolments in Tennesseean (Higher) Education, 2013**

Public higher education											
TBR						UT		TICUA		Proprietary	
TCATs	Universities			Community Colleges							
Head-count	FTE*	Headcount	FTE*	Headcount	FTE*	Headcount	FTE*	Headcount	FTE*	Headcount	FTE*
<b>17,188</b>	12,101	90,899	74,007	90,613	56,392	48,971	43,481	79,832	74,891	67,217	*
<b>4%</b>	5%	23%	28%	23%	22%	12%	17%	20%	29%	17%	*

Source: Tennessee Higher Education Commission Fact Book 2013-2014, p.2 [table adapted by author]

\* FTE enrolment is calculated in a manner consistent with the Outcomes Funding Formula definition found in Section 4 of the Fact Book;

\*\* The source mentions “Due to limitations in the data, this table does not report FTE for the proprietary sector”

**The policy context**

Tennessee’s performance-based funding is part of an overarching reform agenda which was instigated in January 2010 when the General Assembly passed the Complete College Tennessee Act (CCTA). The CCTA is a comprehensive reform agenda that seeks to transform public higher education through changes in academic, fiscal and administrative policies at the state and institutional levels.

In 2010, the state was amongst the lowest ranked in educational attainment. The Governor’s goal was to reach a 55% educational attainment by 2025, up from around 35%<sup>138</sup> (retrieved from interview data). The primary state policy levers for addressing the state’s educational needs include promoting: (1) productivity and efficiency through an outcomes-based funding formula; (2) quality assurance through revised performance funding standards; (3) economic and workforce development through responses to a study of labour market supply and demand; (4) efficiency and effectiveness through purposeful reporting; (5) efficiencies through mission and sector differentiation; (6) efficiencies through inter-institutional collaboration and reduced duplication; and (7) efficiencies through incentives for extramural support<sup>139</sup>.

**Funding of Tennesseean higher education and performance-based funding**

As completion rates became an increasingly salient issue, the funding mechanism established in 1979, which was heavily focused on enrolments, began to seem obsolete. The new funding mechanisms (also known as “Performance Funding 2.0” or PF2.0) would be embedded in the state base funding and would be allocated entirely according to institutional outcomes<sup>140</sup>. Adults (over 25) and low-income students completing any of the metrics are more heavily weighted. Additional weights are applied to each outcome depending on the priority and institutional mission. Points are awarded

<sup>138</sup> However, this would include, inter alia, a change in “credentialed”, i.e. in the number of awards counted towards the goal, to include also postsecondary diplomas and certificates and other credentials.

<sup>139</sup> See for example the “History” and “current Context” sections in the annual THEC Fact Books.

<sup>140</sup> After a base amount is set aside for operational support.



based on outcomes metrics, which are then multiplied by the Southern Regional Education Board (SREB) average salary to monetise the formula. Fixed costs and the Quality Assurance programme funds (accreditation, student satisfaction, and licensure exam pass rate) are also added, as shown at the end of this section<sup>141</sup>.

The earlier system (“Performance Funding 1.0” or PF1.0) had overlaid a relatively small performance schema atop its pre-existing appropriations formula. Approximately 60% of state money going to higher education was still tied to institutional enrolment figures. The original indicators were weighted at 20% each in the formula and included: (i) the proportion of programmes that are accredited, (ii) student performance in major fields, (iii) student performance in general education, (iv) evaluation of instructional programmes, for example through student or alumni surveys, and (v) evaluation of academic programmes by peer review teams (Dougherty *et al.*, 2010).

The new Tennessee model employs two similar but distinct funding formulae for universities and community colleges. The key features of the model are:

- Each formula assigns weights to separate scaled data points (10 data points for universities, 11 for community colleges) that tie outcome indicators to institutional appropriations. Weight factors applied to each university differ depending on the outcomes and it grants a 40% premium on low-income students (based on their eligibility for Pell grants);
- Each institution still derives a certain percentage of its state funding from fixed-cost budget lines (on average, 15% for community colleges, 18% for universities);
- The underlying rationale is that data that are reported using different kinds of metrics (e.g. graduation rates, inbound research dollars, student progress) need to be converted to a single framework before outcomes can be evaluated collectively;
- The point values for each outcome area are summed and multiplied by the average faculty salary at Southern institutions with similar Carnegie classifications (the SREB average salary);
- The final step in the formula is to add in fixed-cost allocations.

Moreover:

- All outcomes, save graduation rate, are counts rather than rates. Therefore, the outcomes model does not depend on an initial cohort;
- It includes any outcome achieved by any student at any time (part-time, returning students, transfers, etc.);
- Most outcome data are derived from a state-wide student information system;
- There are no state-imposed targets or pre-determined goals;
- Each institution’s formula calculation is independent of other institutions.

The Tennessee funding model has two major components. First, there is the *funding formula based on institutional productivity incomes*. Second, there is the *performance funding based on annual targets for quality enhancement*. We will first present the funding formula. The following example shows,

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<sup>141</sup> See: <http://www.ncsl.org/research/education/performance-funding.aspx>

step-by-step, the application of this part of the funding model, with respect to University of Tennessee Knoxville (UTK), as presented by the THEC<sup>142</sup>:

**Step 1:** Identify university outcomes for the formula model. The following ten indicators are used: 1) Student Progression: 24 Credit Hours, 2) Student Progression: 48 Credit Hours, 3) Student Progression: 72 Credit Hours, 4) Bachelor’s Degrees, 5) Master’s Degrees, 6) Doctoral/Law Degrees, 7) Research/Grant Funding, 8) Student Transfers, 9) Degrees per 100 FTE, 10) Graduation Rate.

**Step 2:** Collect actual data from an entire academic year on the various outcomes (Table 2 shows the numbers for UTK).

**Table 2**

Outcome	Data
Student Progression: 24 Credit Hours	4,179
Student Progression: 48 Credit Hours	4,687
Student Progression: 72 Credit Hours	4,759
Bachelor’s Degrees	3,946
Master’s Degrees	1,573
Doctoral/Law Degrees	477
Research/Grant Funding	\$128.1M
Student Transfers	822
Degrees per 100 FTE	20
Graduation Rate	66%

**Step 3:** Award a 40% premium for the production of certain outcomes by a low-income or adult student (e.g. if 100 adult students get a Bachelor’s degree, the model acts as if 140 degrees were produced) (Table 3).

**Table 3**

Outcome	Data
<b>Student Progression: 24 Credit Hours</b>	4.619
<b>Student Progression: 48 Credit Hours</b>	5.200
<b>Student Progression: 72 Credit Hours</b>	5.385
<b>Bachelor’s Degrees</b>	4.593
Master’s Degrees	1.573
Doctoral/Law Degrees	477
Research/Grant Funding	\$128.1M
Student Transfers	822
Degrees per 100 FTE	20
Graduation Rate	66%

**Step 4:** Rescale the data, if necessary, so it is somewhat comparable across variables. Sometimes data is scaled up, sometimes down (Table 4).

<sup>142</sup> See: [http://www.tn.gov/thec/Divisions/Fiscal/fiscal\\_affairs.html](http://www.tn.gov/thec/Divisions/Fiscal/fiscal_affairs.html)

**Table 4**

Outcome	Data	Scale Factor	Scaled Data
Student Progression: 24 Credit Hours	4,619 /	1 =	<b>4,619</b>
Student Progression: 48 Credit Hours	5,200 /	1 =	<b>5,200</b>
Student Progression: 72 Credit Hours	5,385 /	1 =	<b>5,385</b>
Bachelor’s Degrees	4,593 /	1 =	<b>4,593</b>
Master’s Degrees	1,573 /	0,30 =	<b>5,244</b>
Doctoral/Law Degrees	477 /	0,05 =	<b>9,540</b>
Research/Grant Funding	\$128.1M /	20.000 =	<b>6,404</b>
Student Transfers	822 /	1 =	<b>822</b>
Degrees per 100 FTE	20 /	0,02 =	<b>989</b>
Graduation Rate	66% /	0,04 =	<b>1,641</b>

**Step 5:** Apply a weight to each outcome that reflects the priority of the outcome and the mission of the institution (Table 5).

**Table 5**

Outcome	Data	Scaled Data	Weight
Student Progression: 24 Credit Hours	4,619	4,619	2%
Student Progression: 48 Credit Hours	5,200	5,200	3%
Student Progression: 72 Credit Hours	5,385	5,385	5%
Bachelor’s Degrees	4,593	4,593	15%
Master’s Degrees	1,573	5,244	15%
Doctoral/Law Degrees	477	9,540	10%
Research/Grant Funding	\$128.1M	6,404	15%
Student Transfers	822	822	5%
Degrees per 100 FTE	20	989	10%
Graduation Rate	66%	1,641	20%

**Step 6:** Multiply and sum the Scaled Data times the Weight to produce the “Weighted Outcomes.” All steps are identical at each university. The only difference is the weight factor applied to each university (Table 6).

**Table 6**

Outcome	Data	Scaled Data	Weight	Weighted Outcome
Student Progression: 24 Credit Hours	4,619	4,619 x	2% =	92
Student Progression: 48 Credit Hours	5,200	5,200 x	3% =	156
Student Progression: 72 Credit Hours	5,385	5,385 x	5% =	269
Bachelor’s Degrees	4,593	4,593 x	15% =	689
Master’s Degrees	1,573	5,244 x	15% =	787
Doctoral/Law Degrees	477	9,540 x	10% =	954
Research/Grant Funding	\$128.1M	6,404 x	15% =	961
Student Transfers	822	822 x	5% =	41
Degrees per 100 FTE	20	989 x	10% =	99
Graduation Rate	66%	1,641 x	20% =	328
		<b>Total</b>		<b>4.376</b>

The weighted outcomes are then monetised with an average SREB faculty salary multiplier, adjusted for selected fixed cost elements (e.g. infrastructure size and major equipment inventory) and the Performance Funding or Quality Assurance programme is added (see description below)

Hence, in the case of UTK, the final funding is as follows (for illustration purposes only):

**Table 7**

Outcome	Data	Scaled Data	Weight	Weighted Outcome
Students Accumulating 24 hrs (Scale=1)	4,619	4,619	2%	92
Students Accumulating 48 hrs (Scale=1)	5,200	5,200	3%	156
Students Accumulating 72 hrs (Scale=1)	5,385	5,385	5%	269
Bachelor’s and Associates (Scale=1)	4,593	4,593	15%	689
Master’s/Ed. Specialist Degrees (Scale=0.3)	1,573	5,244	15%	787
Doctoral / Law Degrees (Scale=.05)	477	9,540	10%	954
Research and Service (Scale=20,000)	\$128.1M	6,404	15%	961
Transfers Out with 12 hrs (Scale=1)	822	822	5%	41
Degrees per 100 FTE (Scale=.02)	20	989	10%	99
Six-Year Graduation Rate (Scale=.04)	66%	1,641	20%	328
<b>Total</b>				<b>4,376</b>
Total Weighted Outcomes		<b>Avg SREB Salary</b>		<b>Subtotal</b>
<b>4.376</b>		x	89.473	= 391,531,000
M&O, Utilities				+ 74,993,000
Equipment				+ 19,177,000
Performance Funding				+ 22,897,000
<b>Grand Total Calculation</b>				<b>508.598.000</b>

As mentioned earlier, all steps are identical at each university. The only difference is the weight factor applied to each university. Therefore, for example, while one institution might give 15% weight to “Bachelor degrees”, another might assign 30% to this outcome, which would mean that the latter focuses more on undergraduate education and less on research. Table 8 below shows the Tennessee Outcomes-Based Formula applied to the six TBR and three UT university campuses.

**Table 8: Tennessee Outcomes-Based Formula for TBR and UT universities**

Weights Based on Institutional Mission	APSU	UTM	TTU	UTC	MTSU	ETSU	TSU	UM	UTK
<b>Student Progression: 24 CH</b>	3%	3%	3%	3%	3%	3%	3%	2%	2%
<b>Student Progression: 48 CH</b>	5%	5%	5%	5%	5%	5%	5%	3%	3%
<b>Student Progression: 72 CH</b>	7%	7%	7%	7%	7%	7%	7%	5%	5%
<b>Bachelor's Degrees</b>	30%	30%	25%	25%	25%	25%	25%	25%	15%
<b>Master's Degrees</b>	15%	15%	15%	15%	15%	15%	15%	15%	15%
<b>Doctoral/Law Degrees</b>	0%	0%	5%	5%	5%	7,5%	7,5%	10%	10%
<b>Research/Grant Funding</b>	10%	10%	10%	10%	10%	12,5%	12,5%	12,5%	15%
<b>Student Transfers</b>	10%	10%	10%	10%	10%	5%	5%	5%	5%
<b>Degrees per 100 FTE</b>	15%	15%	10%	10%	10%	10%	10%	10%	10%
<b>Graduation Rate</b>	5%	5%	10%	10%	10%	10%	10%	12,5%	20%
	100%	100%	100%	100%	100%	100%	100%	100%	100%

↓  
**Bachelors degrees; little research/doctoral degrees**

↓  
**Extensive doctoral degrees and emphasis on research**

The second component of the funding model concerns the *performance funding based on annual targets for quality enhancement*. Quality Assurance programme funds (accreditation, student satisfaction, and licensure exam pass rate) are added on <sup>143</sup>. The Tennessee Higher Education Commission's Performance Funding programme has been in operation for over thirty years. All public universities and community colleges can earn up to an additional 5.45% of their “funding based on productivity outcomes” (which is the first funding component presented above), when they do well in comparison to other universities (benchmark) on additional performance funding programme metrics set by the state.

The incentive is said to have encouraged institutions to build comprehensive evaluation systems whereby they can reliably measure student learning. The Performance Funding programme serves as an accountability instrument for each five-year Master Plan and tracks measures the Commission is statutorily required to report annually to the Tennessee General Assembly. For the 2010–15 cycle, the Performance Funding standards focus entirely on quality assurance, specifically on two quality standards: Quality of Student Learning and Engagement (75%) and Quality of Student Access and Success (25%).<sup>144</sup>

The 2010–15 Performance Funding standards reflect the professional judgment of the Advisory Committee with representation from institutions and the UT and TBR systems staff. The Scoring Subcommittee was responsible for developing metrics and scoring mechanisms and providing operational strategies in the development of the 2010-15 standards.

<sup>143</sup> See: <http://www.ncsl.org/research/education/performance-funding.aspx>

<sup>144</sup> See: [http://www.state.tn.us/thec/Divisions/AcademicAffairs/aa\\_main.html](http://www.state.tn.us/thec/Divisions/AcademicAffairs/aa_main.html);

[http://www.state.tn.us/thec/Divisions/AcademicAffairs/performance\\_funding/PF%202010-15%20Overview.pdf](http://www.state.tn.us/thec/Divisions/AcademicAffairs/performance_funding/PF%202010-15%20Overview.pdf)

**Table 9: Standard One of Performance Funding for 2010-2015: Criteria and Weighting (Source: THEC, 2010)**

<b>Standard One –Quality of Student Learning and Engagement (75%)</b>		
	<b>Community Colleges</b>	<b>Universities</b>
A. General Education Assessment	15	15
B. Major Field Assessment	15	15
C. Academic Programs: Accreditation and Evaluation	15	25
D. Satisfaction Studies	10	10
E. Job Placement	10	--
F. Assessment Implementation	10	10

**Table 10: Standard Two of Performance Funding for 2010-2015: Criteria and Weighting (Source: THEC, 2010)**

<b>Standard Two - Quality of Student Access and Student Success (25%)</b>		
	<b>Community Colleges</b>	<b>Universities</b>
Institutions focus on five sub-populations:		
1) Adult	25	25
2) Low-income		
3) African American,		
4) Hispanic		
5) Males		
6) High Need Geographical Area		
7) STEM		
8) Health		
9) High Need		
10) Institutional Selection		
11) CC Transfers with 24 SCH to Universities		
12) AA/AS/AST Transfers		
13) TN Community College Graduates who Complete Bachelor’s degrees		

***Effects and obstacles in implementing PBF 2.0***

Tennessee is one of the states with the longest experience with performance funding in the U.S. However, the effects of the PBF2.0 are still unclear because the system is only five years old. To date, no large-scale evaluations have taken place<sup>145</sup>. However, although it is still too early to draw hard

<sup>145</sup> The formula was audited to verify that data were accurate and minor changes were implemented (e.g. to ensure articulation of information between institutions regarding transfers) (*interview data*).

conclusions, there has been much attention to the initial effects of the PBF 2.0. These effects can be clustered in three categories<sup>146</sup>:

1. Changes in outputs (e.g. graduate production) over the past five years;
2. Intended changes in institutional behaviour and policies;
3. Unintended changes in institutional behaviour and policies.

*Changes in outputs*

The principal goal of PBF 2.0 is degree completion (Lumina Foundation, 2013). The most visible indicator is, thus, the change in degrees awarded from 2010 to date. The 2013 article by the Lumina Foundation shows (*inter alia*) that:

- Bachelor’s degrees awarded have increased by 4.5% annually since initial outcomes formula implementation, compared to 2.6% annual growth prior to formula implementation;
- Associate degrees awarded have increased by 10.7% annually since initial outcomes formula implementation, compared to 2.8% annual growth prior to formula implementation.

The table below compares the data from the Tennessee Higher Education Fact Books 2010/11 through to 2013/14 on degrees awarded before (2009/10) and after the reforms.

**Table 11: Degrees Awarded in Tennessee by Level and Academic Year**

Degree	Pre-reform		Post-reform	
	2009/10	2010/11	2011/12	2012/13
Associate	7,784	8,652	9,467	9,701
Bachelor	18,250	19,121	19,956	20,871
Master	5,482	5,847	5,863	5,832
PhD	749	746	844	862

Source: Tennessee Higher Education Fact Book (2010/11, 2011/12, 2012/13 and 2013/14)

The data suggest that PBF 2.0 is affecting graduate production, which from the state’s perspective is reassuring (*interview data*). However, it is necessary to be cautious as several other issues need to be taken into account at this early stage, such as the recent global recession which led to higher enrolments in 2008/09 (and thus to higher graduation rates three years on). Similar trends were found in some states where comprehensive outcomes funding was not implemented (Lumina Foundation, 2013).

*Intended changes in institutional behaviour and policies*

The 2010 reforms aimed at directly affecting organisational policies, practices and programmes in order to achieve the prime goal of boosting completions. A recent study by Natow et al (2014) looked at 18 institutional cases across three states (including three community colleges and three universities from Tennessee) to identify changes that have taken place since the 2010 introduction of performance based funding formulae. The conclusions, which are consistent with the information

<sup>146</sup> These categories are based on (a) a report of the Lumina Foundation (see reference list); (b) recent studies by Columbia University’s Teachers College -Community College Research Center (see reference list); and (c) interview data (the list of interviewees is presented at the end of this report; the interview data is integrated into the text and is anonymised).

received during interviews conducted for this report, point at the funding formulae having a clear effect on several areas of institutional policy but mostly in conjunction with other (complementary) initiatives such as accreditation demands (p. 19) or other provisions included in state legislation.

There are two main areas of change, namely (a) academic and (b) student services. Changes fall into a number of categories. The table below presents the most prominent (for a fuller list, see the report by Natow *et al*, 2014).

**Table 12: Major changes in institutional priorities following Tennesseean PBF 2.0**

Academic Policies, Practices and Programmes	Student Services Changes
<p>The funding rewards successful remediation: this leads, inter alia, to changes related to “developmental education”. The focus on developmental education is also said to be a consequence of other instruments such as Tennessee’s “Developmental Course Redesign Initiative”.</p>	<p>Improved advising and counselling services (resulting from the need to support student retention as a condition for funding: under the PF 2.0 institutions receive funding only if the student has completed at least 12 credits (i.e. at least a semester)).</p>
<p>Curricular changes and revisions to graduation requirements:</p> <ul style="list-style-type: none"> <li>◆ Curricular changes based on test scores (Tennessee was the only state to do this);</li> <li>◆ Curricular and instructional changes in STEM courses (for example splitting a particularly hard course into two independent parts to give learners who have difficulties a first remedial (and credit-building) phase;</li> <li>◆ Better course articulation across campuses to ease transfers. In 2011 the University of Tennessee and the Board of Regents both announced the “Guaranteed Transfer Pathways” programme to make transfer from community colleges to universities smoother (also as a consequence of a state-wide legislative mandate to improve articulation);</li> <li>◆ Greater emphasis on cohorts to have more compact groups of students (which is believed to increase success) as opposed to drop-ins;</li> <li>◆ New certificate programmes: the PF 2.0 also rewards successful completion of sub-degree certificates. This can lead to “certificate inflation” by community colleges in order to secure more funds. The THEC needs to control this development carefully.</li> </ul>	<p>Orientation and first year programmes.</p>
<p>Changes to academic departments and academic personnel, for example programme review.</p>	<p>Changes in course withdrawal period (e.g. reducing the opportunities for students to drop out to four times a year in order to keep them on track).</p>
<p>Changes in instructional techniques, for example with a greater emphasis on online delivery to assist non-traditional students (in Tennessee institutions can receive a premium for progression and undergraduate degree production data attributable to low-income and adult students.</p>	

In addition to the points raised above, two comparative considerations are useful:<sup>147</sup>

<sup>147</sup> Natow et al (2014) also look into institutional capacity, cross-state comparisons and so on.



1. On the consequences of PBF 2.0 vis-à-vis the consequences of PBF 1.0:
  - Developmental education changes were made after 2010, but not in 1979. This seems to be clearly related to two factors, namely that (unlike its predecessor) the PBF 2.0 requires an indicator for development education and, in addition, the CCTA requires changes to development education.
  - Moreover, after 2010 there were changes to STEM courses, online courses, better transfer, and offering credit for life experience. This was not the case in 1979, probably because the new formula places far more emphasis on performance and includes several of these institutional actions as indicators.
2. On the effects of performance funding on Community Colleges vs. Universities:
  - Developmental education changes are more frequent in community colleges than in universities (this is not surprising since community colleges educate a larger proportion of developmental students than universities do).
  - Adding programmes and courses was observed mainly at community colleges, possibly because the formula rewards 2-year colleges for certificate completions (see also table above).
  - “Credit for life experience” is offered by community colleges, probably because these institutions are more likely to cater for non-traditional and returning adult learners.
  - No significant differences seem apparent with regards to student services, with the exception of residence life services which are offered by universities

### *Unintended changes in institutional behaviour and policies*

Besides intended changes, there are a number of unintended consequences that are either already visible or considered to be possible future changes (Lahr et al, 2014; interview data). As a preamble, it must be said that the State of Tennessee has seen relatively few unexpected consequences in comparison to other states with a more recent history in performance-based funding. The list presented below is indicative, and based on Lahr *et al*, 2014, who sampled six institutions in Tennessee (in addition to six in Indiana and six in Ohio), and on interview data.

When considering the unintended effects it is also salient to consider differences among institutions of differing (financial and human) capacity, as these institutional characteristics affect the success of the instrument.

Key unintended consequences (actual or potential) include:

- Weakening of academic standards. This can play out, for example, in grade inflation, reducing degree requirements to ensure success, and shortening remediation and development education. Some construe the latter as a positive (“not getting stuck in remediation”) but others point out that cutting remedial courses means ignoring students’ learning needs (and thus rendering the whole activity ineffective).
- Compliance costs associated with the need to track students’ progress and all funding indicators. Such costs are said to result in a loss of attention to instruction because of the need to comply with these administrative requirements.

- Reduction of inter-institutional cooperation in favour of competition. As institutions worry about protecting their assets they tend to forget their contribution to the system as a whole, which benefits from inter-institutional cooperation.
- Restrictions to admissions. This is scarcely recorded in Tennessee, but seems to occur more at university level than at community college level. Moreover, there is some evidence indicating that high-capacity (but mainly non research-intensive) and low-capacity institutions are the most likely to openly consider entry restrictions while middle-level capacity institutions are less likely. This is hard to interpret, but according to Lahr et al. it could be related on the one hand to the low-capacity institutions' need to increase their (graduation) outcomes and, on the other hand, to the aspiration of non-research intensive high-capacity institutions to emulate prestigious research-intensive universities.

*Obstacles to effective implementation of performance funding*

A final consideration concerns the obstacles that can hinder the successful implementation of large-scale reforms such as Tennessee's performance funding and the success factors that can, conversely, promote it. These may include (Pheatt et al., 2014; interview data):

Obstacles	Success factors
<p>Student body composition:</p> <ul style="list-style-type: none"> <li>◆ Many students are not academically prepared for college work (universities are slightly more worried about this than community colleges). This unpreparedness can hinder performance on the metrics. Interestingly, this obstacle leads many students to need remedial courses, which is one of the effects of the performance funding (see above). None the less, national data show that those who do remedial courses are more likely to drop out.</li> <li>◆ Many students are not seeking degrees but experimenting with higher education (especially in community colleges).</li> <li>◆ Low SES student tend to be debt averse while at the same time tuition fees are becoming ever more important and recruiting low SES students is a performance indicator.</li> <li>◆ The demographic situation affects the student body composition (this is important because in the PF 2.0 all outcomes save graduations are counts rather than rates (therefore, the outcomes model does not depend on an initial cohort).</li> </ul>	<p>Consensual process: agreement on the fundamentals thanks to a long process of consensus building, which included the institutions, state government, administrators etc.</p>
<p>Insufficient institutional capacity to implement the new requirements.</p>	<p>Initiated by law (authoritative nature combined with consensus).</p>
<p>Institutional resistance to change (mainly with the argument of reduced academic autonomy).</p>	<p>The three year rule: the fact that the funding is based on the past three years means that changes in institutional appropriations are gradual. This was especially important at the start of the process, when institutions received a funding level comparable to the prior year (i.e. it was not an immediate change in the institutions' financial conditions). This allowed a gradual increase in acceptance where doubts might have been cast in the beginning.</p>

## Obstacles

## Success factors

Metrics are said not to align with institutions' missions or characteristics. For example community colleges often complain that the indicators unrealistically hold them to the same standards as four-year colleges.

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## United States of America: Louisiana

### *The system*

The public higher education sector<sup>148</sup> of the State of Louisiana consists of four separate higher education systems: Louisiana State University System (seven institutions), Southern University System (four institutions), University of Louisiana System (nine institutions), and Louisiana Community and Technical College System (fourteen institutions). Within these systems there are 34 public colleges, universities and professional schools. There also are about fifteen private post-secondary education institutions.

The public higher education sector is coordinated by the Board of Regents (BoR). They are in charge of state-wide academic planning and review, budgeting and performance funding, research, and accountability.<sup>149</sup> Furthermore, the BoR sets state-wide standards such as minimum admissions requirements and benchmarks and targets for the performance funding model (known as the GRAD Act).

Each of the four higher education systems has a distinct profile. The Board of Regents wants each institution to contribute its own strengths towards a system of institutions that collectively meets the post-secondary education and workforce needs of the people (Board of Regents, 2011). Consequently, each institution is to occupy a niche in the higher education system. Under the Constitution of Louisiana, the Board of Regents has the authority to designate the role, scope and mission for each institution. It has done so within a common framework consisting of three criteria: (1) audiences to be served, (2) the general array of programmes to be offered, and (3) any special or unique features of institutional mission.<sup>150</sup> There are five distinct types of institution within the public higher education system: (1) comprehensive research universities, (2) specialised units, (3) state-wide universities (4) regional universities, and (5) community and technical colleges (Board of Regents, 2011). The BoR consulted the institutions and the systems when it determined the institutions' profiles.

The University of Louisiana System is the largest system.<sup>151</sup> The nine institutions within the system each have different missions and orientations, which are shaped by the institution's history and unique strengths. The Louisiana State University (LSU) System includes the Louisiana State University and its different campuses. The different LSU campuses have different orientations, ranging from comprehensive to medical. As determined by the BoR, the Louisiana State University is the state's flagship institution, meaning that it is the leading academic institution in the state.<sup>152</sup> The Southern University System is the only historically black university system in America. Its mission is to further develop and fortify its "land grant purpose with emphasis on appropriate access and delivery of quality instruction, problem-solving, high-impact research, extension, and service".<sup>153</sup> The campuses have different orientations: two are comprehensive, two are specialised (law and agriculture), and one mainly offers professional programmes. The Louisiana Community and Technical College System represents fourteen community and technical colleges. The system's mission is to lead and inspire

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<sup>148</sup> The sector is also referred to as the post-secondary education sector.

<sup>149</sup> <http://regents.louisiana.gov/about-regents/>

<sup>150</sup> The by BoR determined roles, scopes and missions can be found in appendix E of the master plan of the Board of Regents (2011).

<sup>151</sup> <http://www.ulsystem.edu>

<sup>152</sup> <http://www.lsusystem.edu/index.php/institutional-research/strategic-plan/>

<sup>153</sup> <http://www.sus.edu/PageDisplay.asp?p1=4357>

“private support for Louisiana’s community and technical colleges to ensure excellence in meeting the education and workforce needs of our State’s students, businesses and communities”.<sup>154</sup>

Students in Louisiana can obtain the following awards from the higher education institutions:

- Certificates, Diplomas, and Associate Degrees (typically two-year programmes);
- Bachelor's Degrees (typically four-year programmes);
- Professional Degrees (typically six years to complete, including the years of study prior to enrolling in the professional degree programme);
- Master's Degrees (typically two-year programmes);
- Grad Certificates (length depends on the number of Master courses followed);
- Doctoral Degrees (length depends on prior study; generally for PhD students with a Bachelor’s degree it takes four years and for PhD students with a Master’s degree two years);
- Specialists (programmes for professionals generally taking three years).

In 2013, the Louisiana’s public higher education sector enrolled 221,324 students, of which 64% were full-time students. Most students were enrolled in undergraduate programmes (89.5%).

### *The policy context*

The 2011 master plan for higher education in Louisiana, established by the Board of Regents, mentions three main goals: (1) raising educational attainment of Louisiana’s adult population to 42% by 2025, (2) investing in research to sustain and expand the State’s economic development, and (3) increased efficiency and accountability in the higher education sector.

The first goal is said to be the most crucial one for Louisiana. Currently less than 30% of Louisiana’s adults hold a post-secondary credential, while it has been projected that by 2018 51% of all jobs in Louisiana will require some post-secondary education. Consequently, it is essential to the future of Louisiana’s knowledge economy for the state to improve access and study success. To achieve the first goal, specific target numbers have been set (by 2025 additional awards needed: certificates/diploma’s: 31,655; associate degrees: 40,212; baccalaureate: 72,250).

To attain the second goal, the Board of Regents, the higher education systems and campuses adopted the state-wide science and technology plan: Fostering Innovation through Research in Science and Technology in Louisiana (FIRST Louisiana). Indicators to measure performance on FIRST Louisiana have been included in the Louisiana Granting Resources and Autonomy for Diplomas Act (GRAD Act).

The third goal is to monitor, measure, and report on the progress made on the master plan. Moreover, the goal is to dedicate the post-secondary education sector to performance and productivity and to give the state insights into the efficiency and effectiveness of public resources. Consequently, fiscal savings are part of the master plan’s goals. The Board of Regents reports on the state’s progress towards the goals in the master plan and continues to enact policies as necessary.

The master plan goals were the result of, among other reviews, the recommendations of the Postsecondary Review Commission (PERC), which suggested removing barriers to college completion and workforce entrance, realising efficiencies, and establishing stable funding levels.

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<sup>154</sup> <http://www.lctcs.edu/foundation/>

The economic recession ended a period of growth in public funding. In the midst of this funding context, the GRAD Act was adopted in 2010. The GRAD Act, a key component in attaining the master plan's goals, intends to encourage institutions to increase graduation and retention rates and align study programmes with workforce needs through a performance funding model.

In 2014, Louisiana adopted the Workforce and Innovation for a Stronger Economy (WISE) Fund to strategically align new investments in higher education with workforce needs. These funds are available to "research institutions that produce nationally recognized commercial research and colleges and universities that partner with private industries to produce graduates in high demand degrees and certificates that enable them to link their coursework to industry needs and projected workforce demands."<sup>155</sup> To receive the funds institutions must match 20% of the desired funding with private resources. WISE funds are allocated separately from other higher education funds.

Compared to other states, Louisiana has a more centralised governance approach to the public higher education sector. Consequently, the Louisiana institutions need to comply with a substantial number of regulations and comparatively have less autonomy.<sup>156</sup> One of the aspects on which the institutions do not have autonomy is setting the level of tuition fees. In principle, the level of tuition fees is decided by the legislators, and requires a two-thirds majority vote, suggesting it may be a difficult process.

### *The funding model*

In 1997, the Board of Regents introduced a funding model that contained several performance indicators. Higher education institutions were to report on four core objectives and related goals: total enrolment, minority enrolment, retention (campus and state-wide) and graduation rates (Board of Regents, 2011). In 2001, additional objectives were added. The 2001 funding formula consisted of three main components: (1) core funding, (2) quality improvement and (3) performance incentives. However, in practice the institutions were only funded through the core funding component, which was largely based on the number of enrolled students: there was not a performance-based funding model in place.

After stakeholder consultation and several revisions, the current funding model has a formula-based core funding component and a performance component. The Board of Regents is authorised to enhance and improve the formula to ensure the priorities are in line with Louisiana's needs. The performance funding elements are set in the GRAD Act. The performance component, settled in performance agreements, has two parts. First, alongside the 75% core funding, 15% of the budget is performance-driven and if the performance targets are achieved, a 10% rise in tuition fees is allowed ('bonus' for good performance). Moreover, institutions will be granted more operational and financial autonomy if performance targets are met.

The cost component that comprises 75% of the total public funding is mainly based on credit hours as well as operational and general support. It covers instruction, faculty and student academic support and administration. The key element is the core cost component, which is calculated as follows. The student credit hour, a measurement of institutional workload, measures the number of credit hours attributed to a course (e.g. if 10 students are in a 3 hour course, 30 student credit hours are

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<sup>155</sup> <http://www.lsu.edu/ur/ocur/lsunews/MediaCenter/News/2014/06/item70592.html>

<sup>156</sup> For an overview of the different education policies of the State of Louisiana see: <http://higheredpolicies.wiche.edu/content/policy/state/LA>

attributed). These student credit hours are weighted by course type (e.g. lower level undergraduate liberal arts has a weight of 1.0, while the weight for a nursing Master's course is 6.49). These weighted student credit hours are multiplied by a base value (based on average faculty salaries, class size, full-time student workloads and other factors). This results in the calculated core cost component, which is then corrected with withdrawal rates. The result is the core cost component. Added to this component are (1) an operations and maintenance budget (net assignable square footage to carry out instruction, research or academic support), (2) general support based on type of institution<sup>157</sup>, and (3) strategic initiatives (based on institutional mission). The final result is the total cost calculation multiplied by a state share by SREB category (each institution is assigned a category based on level, quantity, and mix of degrees awarded).

The performance component uses metrics aligned with the Louisiana GRAD Act whose objectives are (1) student access, (2) articulation and transfer, (3) workforce and economic development, and (4) institutional efficiency and accountability. Each performance objective is comprised of a series of "elements" or sub-goals. Each element has a series of related measures. These measurements are categorised as:

- Targeted: Specific short and long-term measures. Institutions must have baseline data, annual benchmarks and six-year targets. Institutions report annual progress on measures.
- Tracked: Measurements requiring baseline and actual data must be reported in the first two years. These will be converted into "targeted" measures in years three to six.
- Descriptive: These measures do not require annual benchmarks and targets. However, institutions are required to submit baseline and actual data via annual reports.

The number of performance indicators on which institutional performance is measured differ by institution and depend on what has been negotiated in the performance agreements. Consequently, there is not a common set of performance indicators used to assess performance across all institutions. The indicators relate to the four GRAD Act objectives. Examples of indicators used for the student success objective are: retention rates, graduation rates, number of completers, and performance on professional licensure/certification exams.<sup>158</sup>

Based on annual reports by the institutions and data submitted through a web-based reporting system, progress on the performance goals is evaluated annually by the Board of Regents. To ensure the reliability of the submitted data, audits are performed by the legislative auditor and the Board of Regents audit decision (Board of Regents, 2014).

A point system is used for the evaluation of performances on the indicators: two points for fully, within a margin, achieving, or showing progress on targeted indicators (thus putting extra weight on student success indicators), and one point for achieving tracked and descriptive indicators. Narratives given by institutions on indicators can be worth 20% of the possible score. No scores are given for targets on indicators that institutions failed to meet or if no information is supplied. Institutions that achieve a minimum of 80% of the total possible number of points pass the GRAD Act and are eligible for the benefits of the performance funding.

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<sup>157</sup> The type of institution is determined by the classifications made by the Southern Regional Education Board (SREB). See, for more information: [http://www.sreb.org/page/1129/institutional\\_categories.html](http://www.sreb.org/page/1129/institutional_categories.html).

<sup>158</sup> For more information on the different indicators used, refer to the institutions' annual reports, available on: <http://regents.louisiana.gov/grad-act/>

The performance funding provides institutions with an incentive to perform on the four objectives. In exchange for meeting the GRAD Act requirements, institutions are awarded with (Board of Regents, 2011: p. 17):

- Tuition authority: institutions are allowed to increase their tuition fees if they attain the short term targets (up to 5%) and if they attaining short term targets and show progress on long term targets (up to 10%; until it reaches the peer institutions' average tuition fee).
- Increased operational and financial management autonomy and flexibility.
- Performance funding through the formula which is aligned to the student success measures outlined in the GRAD Act.

Institutions that fail to meet the performance targets during the six-year agreement period are 'punished' by not being granted these incentives. By submitting a remedial plan and entering into a performance improvement contract, the underperforming institutions are able to gain access to 75% of the lost performance funding.

The annual budget for institutions is calculated annually, using the funding formula. For instance, institutional budgets for 2015 are determined by institutions passing the GRAD Act requirements in 2014. As rule of thumb, institutions are able to draw money from the allocated state budget on a monthly basis, so they get 1/12 of the yearly budget each month.

### *Performance agreements*

As a consequence of the GRAD Act of 2010, the Board of Regents entered into six-year agreements with the institutions to develop long-term performance goals and measure progress in 2011. Thus, the performance component of the funding system is dealt with through performance agreements. Thirty institutions concluded performance agreements with the Board of Regents. The performance agreements establish annual performance targets that are unique to each institution's mission and based on the objectives in the GRAD Act.

Entering into agreements is, in principle, voluntary; institutions did not have to participate. However, institutions that don't enter into an agreement, are not entitled to the performance incentives, continue to face strict regulations and depend on the legislators for any increase in tuition fees. Consequently, all the public institutions concluded performance agreements with the Board of Regents.

Before setting the agreements, the institutions had to specify their targets on the performance indicators for six years. These targets were then negotiated with the Board of Regents, the institutions' boards and representatives of the higher education systems. When the parties reached consensus on the target levels, the agreements were signed by the institution's president, the board of supervisors and the BoR's commissioner of higher education. The agreements are legally binding, but the legal character of the agreements has not been tested in a court of law.

The performance agreements consist of a 10 page contract, which is similar for all institutions.<sup>159</sup> The agreement states (1) the purpose, (2) the four common performance objectives,(3) the institution's and BoR's responsibilities, (4) resources and autonomies, (5) monitoring plan, (6) revocation clauses,

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<sup>159</sup> The agreement texts is available on: <http://regents.louisiana.gov/wp-content/uploads/2014/07/Agreement.pdf>



(7) terms of agreement, and (8) extraordinary circumstances. In addition to the general contracts, the agreements have four attachments in which the indicators and targets for the four performance objectives (e.g. student success) are determined. Based on negotiations and the role, scope and mission of the institutions, every institution has a different number of targets included in the agreements. In total there are up to 90 performance targets, but the number of targets included in a performance agreement ranges from 10 to 70.

Based on the agreed targets, institutions have yearly benchmarks that they have to reach in order to pass the GRAD Act. To monitor performance, institutions submit annual reports, which are graded by BoR and made publicly available. BoR informs the legislators of the annual progress made on the performance objectives. Over the past four years, most of the institutions have been able to reach the benchmarks. The institutions that did not pass (one three years ago, and three one year ago) could not increase tuition fees in the following year, could not apply for the autonomies and were not entitled to performance funding.

The Board of Regents is authorised to revoke agreements if it determines that an institution has failed to abide by the terms of the agreement. Similarly, the Board of Regents may modify the performance targets if extraordinary circumstances prevent the institution meeting the targets. Institutions are allowed to raise the performance targets during the agreement period, but BoR has to agree with the new targets. Similarly, institutions can request lower performance targets. However, in addition to BoR, a joint committee of legislators has to agree to the lower targets.

### *Experiences and effects*

As envisioned by the GRAD Act, the performance funding would be additional money that institutions could earn in addition to their core component funding. In other words, good performance would lead to a bigger budget. However, due to a number of financial developments in the State of Louisiana, no additional money was made available for performance funding. Instead 15% of the core funding was taken away and allocated on the basis of performance. Consequently, in order to maintain their funding levels, institutions had to perform at higher levels to survive financially. If they did not perform adequately, they would face decreased budgets. This implies that the performance model intended as a system of 'carrots' turned into a system of 'sticks'.

When the institutions set the targets in the performance agreements, they were aware of the changes in the performance funding pool (i.e. it was taken from the core budget, instead of being additional money). As the result of that the institutions were conservative in setting their performance targets. Similarly, being aware of the changes in the performance funding pool and the limited rewards, the Board of Regents, who negotiated the targets, allowed the targets to be somewhat conservative.

Although the targets were perhaps not as ambitious as some stakeholders would have hoped for, most institutions have continuously shown improvement on them (e.g. retention and graduation rates went up). Most institutions pass the GRAD Act yearly. Those that do are entitled to the three incentives. However, as mentioned earlier, the effect of the funding incentive is limited because it does not offer additional funding. Moreover, the state government, which is in charge of handing over responsibilities, has not been very forthcoming in terms of working with the institutions to allow them to practice the responsibilities. As a result, the most important incentive for institutions to meet the targets is the tuition fee autonomy.

The goals of the GRAD Act, and therefore the performance funding and agreements, are:

- To hold institutions accountable for their performances;
- To reward good performance;
- To increase performance;
- To increase efficiencies.

Because of the GRAD Act institutions are likely to have become more mindful of their retention and graduation rates. As the result, some of the goals of the GRAD Act have been achieved. However, the Board of Regents assumes that performance would have been much better if the funding model was actually implemented and utilised as it was originally designed.

The government largely sees the GRAD Act as a positive steering instrument, as it improved the institutions' performance and made the institutions more accountable. The GRAD Act also allowed the government to not have to deal with tuition fee levels on an annual basis, which might be a political advantage.

The advantage for institutions participating in the GRAD Act relate to the opportunity to raise tuition, to seek autonomy, and to keep funding. A disadvantage for institutions is that the funding formula, if applied to a part of the core budget as it is currently, can lead to instability in annual budgets. In a system that is already underfinanced, these yearly fluctuations can push institutions into financially unsustainable situations.

After the six-year agreement period, the current performance model will be evaluated by a review panel. Based on the review, the Board of Regents will make recommendations to the legislators. Renewal decisions are to be approved by the Joint Legislative Committee on the Budget.

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## United States of America: South Carolina

### *Higher education system and funding model*

South Carolina was one of the first states to introduce performance funding in its public higher education sector. It is also one of the examples of performance funding models that have been abandoned.

*The 1996-2002 funding model.* The Commission on Higher Education (CHE) developed a funding model that allocates 100% of the state funding based on performance by the public institutions. This funding model consisted of nine success factors and 37 attached indicators. The success factors were: mission focus, quality of facility, instructional quality, institutional cooperation and collaboration, administrative efficiency, entrance requirements, graduates' achievements, user-friendliness of institution, and research funding (Dougherty et al., 2010). Data on the indicators was collected by the institutions, and submitted to the CHE. In turn, CHE would apply the funding formula on the received data. CHE intended to audit the institutions' data every two years. Institutions that did not meet the required performance standards, and were thus at risk of losing funding, could apply for additional funding through the performance funding pool. With the funds the institutions were expected to improve their performance.

Before implementation of the model, the sector was heavily divided (Nettles, et al., 2002), a situation that was probably was not conducive to successful implementation. In its evaluation, the South Carolina Legislative Audit Council (2001) recommended changing the performance funding, as it had a number of concerns:

- The indicators did not adequately assess institutional quality. The indicators were too narrow, changed from year to year and some could not be adequately measured / quantified.
- Similar standards had been set for similar institutions. However, within the same group of institutions there can be large differences (e.g. in the student population). Also there was less differentiation possible in institutions' missions because of the similarity in standards.
- Institutional representatives had a high administrative burden to collect the required data.
- Volatility in the performance scores could result in extreme fluctuations in funding.
- Due the uneven parity in funding of the CHE some institutions were – based on their calculated financial needs – awarded a higher percentage of funding. When the performance funding was introduced this meant that institution did not start on a level playing field: some institutions had more financial capacity to perform.

Six years after its introduction, and two years after its 'full' implementation, South Carolina effectively abandoned the performance funding model (in 2001–2002). Apart from the reasons given above, protests from university faculty and administrators, who "were overloaded from trying to implement the program" contributed to its abolition (Scott, 2013). Additional insights suggest that there were weaknesses in the design of the funding formula as it used a heavily uniform formula incapable of differentiating between different institutions' missions (McLendon & Hearn, 2013). Abandoning performance funding was also triggered by a sharp drop in tax revenues and the lack of empirical evidence that the performance model actually enhanced institutional performance.

After experimenting with output based funding for ten years, the model was abandoned altogether in 2006. It was replaced with a new accountability plan for public higher education institutions. The state currently uses a funding model that mainly focuses on in-state student enrolment (number of students and their credit hour production), academic programme mix (differentiation in funding based on academic disciplines) and the student degree level (differentiation in funding based on level of instruction) to determine the funding needs of South Carolina's public higher education institutions (CHE, 2014).

In 2011–2012, aiming to increase accountability, the state legislators began to discuss re-introducing performance funding in higher education, taking into account graduation rates, job placement, institutional outcomes in economic development, and services to disadvantaged students (Harnisch, 2011). To this effect, legislation was proposed in 2012 and 2013 that would allow the development of a new accountability related performance based funding model for higher education institutions (except the 12 technical colleges). However, due to a lack of political interest, the legislation was not adopted by the State Senate in 2014 (CHE, 2014). Consequently, the proposed legislation 'died' and it is uncertain whether it will be debated in upcoming State Senate sessions. Nevertheless, CHE did manage to get a project approved in which an outside consultant will conduct research on higher education efficiency, effectiveness and accountability at four-year institutions. Results are expected in 2015 and could revive political interest in performance based funding. It is uncertain to what extent the previous experience with performance funding played a role in not moving forward with the new performance funding initiative.

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# Appendices

## Appendix A: The higher education systems surveyed

COUNTRY	SYSTEM FEATURES	KEY REFORMS & POLICY ISSUES
<b>AUSTRALIA</b>	38 public institutions, three private universities and large number of other privately funded HE providers. Unitary system	Developing unique institutional profiles, particular focus on research. Shift towards demand-driven funding. Uncapping number of government-supported student places.
<b>AUSTRIA</b>	22 public universities, 21 <i>Fachhochschulen</i> , public and private university colleges for teacher education (17 in total), 12 private universities	2002 University Act turning point (enhancing university autonomy in various ways). Funding model changed several times in last decade. Introducing new “communication structures” (with national HE development plan and Austrian conference for HE) to improve dialogue among stakeholders. Restricting or widening access was big challenge related to strong growth in student numbers. Tuition fees contentious issue.
<b>DENMARK</b>	University colleges, 8 research universities, academies of professional HE, and university-level institutions in architecture, design, music and performing arts.	Increased research budget. Imposed mergers. ‘Modernising’ internal university governance structures. New system of quality assurance. Introduction of financial incentives to enhance performance. Introduction and adaptation of performance agreements. Globalisation Strategy 2006: 1) link funding to quality and performance; 2) increase participation rates, increase student completion, 3) more PhDs, 4) internationalisation, 5) introduction of accreditation system. 6) increase international competitiveness.
<b>FINLAND</b>	15 universities and 26 polytechnics	Overall ambition to become the most competent nation in the world by 2020. Recent reforms in area of internal university governance, autonomy, mergers, quality assurance and funding. Policy goals related to educational attainment levels, creating equal opportunities, improving completion rates and reducing time to degree, matching education supply with labour market demands.
<b>The NETHERLANDS</b>	13 research universities, an Open University and 38 Universities of Applied Sciences ( <i>hogescholen</i> ). All are publicly funded. Research universities cater for a third of the students (BA and MA), while hogescholen have 2/3 of the students (primarily BA). There are also independent private HE institutions (58) that do not receive government funding.	Ever since the milestone 1985 white paper “Higher Education; Autonomy and Quality”, Dutch higher educations have been enjoying relatively high degrees of autonomy. Recent concerns about a lack of system diversity and levels of student completion have led to the introduction of a system of performance agreements between the education ministry and individual institutions. Policy goals relate to improving completion rates for students, cost sharing (backed by reforms in the student support system), encouraging excellence in teaching and research, and encouraging universities to work with industry in public-private research partnerships on themes that are of strategic importance for the Dutch economy.

COUNTRY	SYSTEM FEATURES	KEY REFORMS & POLICY ISSUES
<b>NORTH-RHINE WESTPHALIA</b>	14 public universities, 16 <i>Fachhochschulen</i> , 7 arts and music universities, 30 accredited private and theological HEIs, 5 HEIs for public administration	2006 HE Act aims: more institutional autonomy, international competitiveness, institutional profiling. Excellence Initiative. Introduction of new quality assurance systems. Recently adopted new HE Act (Autumn 2014), met with scepticism from university leadership as it reduces institutional autonomy in some ways.
<b>THURINGIA</b>	5 universities, 4 <i>Fachhochschulen</i> , 2 universities of cooperative education, 1 state-recognised private university of applied sciences in health care.	Decreased student numbers. Need for more highly skilled employees. Open access. Strengthened research profile. Knowledge seen as a resource.
<b>HONG KONG</b>	19 HEIs: 9 public and 10 self-financed.	More integration in fragmented system needed (e.g. as regards funding, quality assurance). Internationalisation and regional knowledge hub. Reinforce differentiation of institutions.
<b>IRELAND</b>	7 universities, 14 institutes of technology, and institutions of specialist education (e.g. arts, medicine and business). Plus a number of independent private institutions.	Developing more flexible system, greater choice of provision. Quality of teaching and learning. More effective university – environment collaboration. Regional clustering.
<b>ENGLAND</b>	Universities, colleges and technical colleges	Students at the centre of the recent reforms. Big reform of funding system in 2012: reducing state funding for publicly funded education and requiring higher student contributions (tuition fees of up to £9000; backed up by student loans). In the recently introduced new assessment system to evaluate the quality of research also the impact of research is rated by assessment panels (REF: Research Excellence Framework)
<b>SCOTLAND</b>	19 universities and 25 colleges, merged into 13 college regions.	Improve access. Quality of teaching. Secure coherent HE provision. Being internationally competitive. Strengthen university-industry collaboration. Simplification of funding system.
<b>TENNESSEE</b>	Two system of public HE: University of Tennessee system and Tennessee Board of Regents system. Also independent universities and colleges.	Enhancing education excellence. Expanding research capacity. Fostering outreach and engagement. Ensuring efficiency and effectiveness. Improving educational attainment.
<b>LOUISIANA</b>	Four separate HE sectors: Louisiana State Universities system (7), Southern University System (4), University of Louisiana system (9), Louisiana Community and Technical College system (14)	Goals: Raising educational attainment. Investing in research to support economic development. Increase efficiency and accountability. Strengthen collaboration between HE and industry.
<b>SOUTH CAROLINA</b>	33 Public HEIs: Research institutes (3), Comprehensive Four Year Institutes (10), Two-Year Regional Campuses of USC (4), and Technical Colleges (16)	Calls for increased accountability of HEIs, through a new performance funding model, with a focus on graduation rates, job placement, institutional outcomes in economic development, and services to disadvantaged students. Project on efficiency, effectiveness and accountability in HE to guide future directions of public HE in South Carolina.

## Appendix B: Funding systems: main features and indicators

COUNTRY	FUNDING SYSTEM FEATURES	PERFORMANCE INDICATORS
AUSTRALIA	Teaching: Commonwealth Supported Places; ministry specifies for 3-year period the number of funded study places per institution. Research: Future Fellowship Scheme (research council), National Collaborative Research Infrastructure Strategy	PA (Compacts) use following areas with indicators: number of Aboriginals (enrolment, completion, staff), innovation (patents, licence, research contract and consultancy, spin-offs), engagement (active collaborations), teaching and learning (enrolments, quality, equity, social inclusion), and research training.
AUSTRIA	Universities: basic budget based on PAs and <i>Hochschulraum-Strukturmittel (HSM)</i> based on five (performance) indicators Future: study place financed funding model? UAS: norm cost model for operating cost and personnel cost, tuition fees and funding from local authorities	Universities: [number of enrolled and active students – 60% of HSM] Number of graduates (10% of HSM) Revenues from knowledge transfer (14% HSM) Revenues from private donations (2% HSM) Collaboration with others (14% HSM)
DENMARK	Basically, the allocation model has three major components: performance-based funding for teaching through taximeter system (outputs plus possibly bonus), a basic research grant (partly historically-driven and partly performance-based), and competitive research grants (e.g. via research councils)	Number of exams passed continues to drive teaching budget per institution. Introduction of a completion (= diploma) bonus related to study duration. Other budget drivers: Amount of research externally financed Bibliometric research indicators Number of graduated PhDs
ENGLAND	Grants for teaching and research, provided by Funding Council	Students these days pay substantial fees (up to £9000) Teaching grant: Block grant based on number of students (quota negotiated with HEFCE) in three cost categories Research funding grant: Block grant based on outcome of research assessment exercise (today: REF – Research Excellence Framework) that evaluates each institution's research quality and its research impact, using peer review (disciplinary panels)
FINLAND	Core funding is formula-based and (partly) performance based: for universities 75%, for polytechnics 100%.	<u>Polytechnics</u> <i>Education (85%)</i> : bachelor's degrees (46%), student credit (>55 credits) (24%), number of employed graduates (3%), study credits 'other study programmes' (4%), degrees vocational teacher training (2%), student feedback (3%), internationalisation teaching (3%) <i>R&amp;D (15%)</i> : external R&D funding (8%), polytechnic master's degrees (4%), academic output (2%), teacher and expert mobility (1%) <i>Strategic development</i> : (project funding) <u>Universities</u> <i>Education (41%)</i> : master's degrees (15%), bachelor's degrees (9%), student credit (>55 credits) (11%), number of employed graduates (1%), study credits 'other study programmes' (4%), master's degrees 'foreigners' (1%), student mobility (2%)



COUNTRY	FUNDING SYSTEM FEATURES	PERFORMANCE INDICATORS
		<p><i>Research (34%):</i> PhD degrees (9%), scientific publications (13%), PhD degrees ‘foreigners’ (1%), international staff (2%), competed research funding (9%)</p> <p><i>Other education and science policy considerations (25%):</i> strategic development (10%), field-specific funding (8%), national duties (7%)</p>
<b>The NETHERLANDS</b>	<p>For research universities and universities of applied sciences, the core public funds for <i>education</i> are 93% formula-based and 7% performance agreements-based. Performance agreements were introduced in 2012 and cover teaching, research and knowledge exchange/valorisation. Some 37% of the universities’ core funds for <i>research</i> is formula-based; 5% is allocated for research schools and 58% is fixed (historically-based) amounts per university. Universities of applied sciences only receive limited research funds - primarily for lectorates (associate professorships). Research council funds are awarded in competition.</p>	<p>Formula funding has included performance elements since the early 1990s. Currently, formula funds for education depend on the number of students (within the normative time to degree), and the number of BA and MA degrees. The indicators that feature in the performance agreements relate to: student completion (BA students), drop-out, students switching to other programmes, number of students in honours programmes, student satisfaction, teaching intensity, staff qualifications, and the share of indirect costs. The indicators in the formula funds for research are the number of BA and MA degrees and the number of PhD completions.</p>
<b>NORTH-RHINE WESTPHALIA</b>	<p>Public grant consisting of basic grant (77%) and performance-related grant (23%). Different performance-related grants for universities and UAS.</p>	<p><u>Universities:</u>  Graduates (50%), Third party funding (40%), and Share of female professors (10%)</p> <p><u>Universities of Applied Sciences:</u>  Graduates (75%), Third party funding (15%), and Share of female professors (10%)</p>
<b>THURINGIA</b>	<p>Cost and performance-based model has 3 pillars: core budget (80%), performance-based budget (14.5%) and general, design and innovation budget (5.5%).</p>	<p><i>Core budget:</i>  [number of students (62.5%)]  Number of graduates (22.5%)  Third party income (15%)</p> <p><i>Performance budget:</i>  number of students (35%)  number doctorates and PhD degrees (30%)  number of female students (12.5%)  number of female professors (12.5%)  number of students in continuing education (10%)</p> <p><i>Innovation budget:</i>  Project-based (General performance fund, redistribution fund, structure and design fund)  (See Thuringia country report for performance indicators in the bilateral performance agreements)</p>
<b>HONG KONG</b>	<p>Capital grants, <u>recurrent grants</u> and matching grant scheme.  UGC follows triennial cycle for allocating recurrent grant with 3 components: teaching (75%), research (23%), and professional activity (‘outreach’) (2%).</p>	<p><u>Teaching:</u>  [student numbers; UGC sets quotas, some over- or under-enrolment is allowed]</p> <p><u>Research:</u>  Performance through Research Assessment Exercise (80%)  Success rate for winning grants from research</p>

COUNTRY	FUNDING SYSTEM FEATURES	PERFORMANCE INDICATORS
		grants Council (20%)
<b>IRELAND</b>	3 components: institutional funding, capital funding (infrastructure) and research funding. Institutional funding has 3 parts: a) annual recurrent grant, b) performance-related funding (since 2014), covering 10% of the recurrent grant, and c) strategic funding (project-based as regards national strategic priorities)	Annual recurring grant: [student numbers, adjusted for several factor including underrepresented groups, and 5% top-sliced and redistributed to universities] Performance-related funding is linked to delivering on national objectives
<b>SCOTLAND</b>	Core grant for universities is based on 3 components: teaching grant (60%), research and knowledge exchange (25%), and strategic projects (15%)	Teaching grant: [number of students – SFC sets quota and funds accordingly] Research funding: [block grant for Scottish Research Council] [external research income from councils, under competition] [External knowledge exchange income]
<b>TENNESSEE</b>	100% performance-driven system with two components: funding formula with performance indicators and performance funding based on annual targets for quality enhancement.	Formula-parameters: Student progression, bachelor's, master's and doctoral degrees, research/grant funding, student transfers, degrees per 100 FTE and graduation rate. On top of this institutions can earn up to 5.45% when they perform well compared to others on metrics set by the state (on student learning & engagement and student access & student success)
<b>LOUISIANA</b>	Cost component (75% core funding), performance component (15%) and potential bonus of 10% (raise in tuition fee income possible if performances are achieved)	Cost component: [mainly credit hours, operational and general support, and strategic initiatives] Performance component (laid down in performance contract): student access, articulation & transfer, workforce & economic development, and institutional efficiency & accountability. Three types of measurement: targeted, tracked, and descriptive measures.
<b>SOUTH CAROLINA</b>	Mission Resource Requirements funding model to fund for research, teaching, regional and technical institutions.	Instruction component: student credits (converted to FTEs based on student/faculty ratios, multiplied by average salary levels). Moreover, support for research, buildings, public services and so on (on historical grounds)

## Appendix C: Description of Performance Agreements

COUNTRY	MAIN CHARACTERISTICS OF PERFORMANCE AGREEMENT
AUSTRALIA	3-year compacts to pursue institutional missions (system differentiation) and contribution to national goals. First time established in 2011. Quality and accountability based condition to receive public funding. Comprehensive document (university mission/government and university priorities/university strategies/government funding). Two components: facilitation funding (formula) and reward funding (focus on two areas: SES student and quality initiatives). Annual reporting requirement for HEIs on performance indicators; more comprehensively assessment after 3 years. Institutions must contribute to the annual Performance Portfolio Information Collection (IPPIC).
AUSTRIA	Basic budget is based on <i>Leistungsvereinbarung</i> – a 3-year PA. Started in 2007. Government develops guidelines and national plan. Next, institutions draft PAs. Based on dialogue and negotiations. Comprehensive PAs that address: strategic goals, teaching and research, drop out policies, improvement student-staff ratio, part-time studies, societal needs, international orientation, university cooperation, defining and measurement of indicators. Includes specified basic budget (obligation for government). Every six months government and institutions individually discuss progress. Universities must report on performance in the <i>Wissensbilanz</i> .
DENMARK	Dialogue-based development contracts, established since 2000, covering a 3-year period and not legally binding (letters of intent). No direct relationship between set targets and awarding grants. Latest generation of development contracts (2012-2014) have a maximum of 10 goals per institution, 5 indicated by the government and 5 by the institution. Goals are supposed to be smart and aim at university's profile. Universities must report annually. Ministry sends outcomes to Parliament.
FINLAND	For universities: 4-year performance agreements, since 1994, covering 4 elements: national objectives, mission, profile & focus areas of the HEI, key development measures, and funding (core and project funding and monitoring and evaluation). See Finland country report for indicators used in PAs. Crafting PAs is interactive process. Initiated by the government (guidelines, national targets) HEIs respond and draft their targets based on internal discussion. Negotiations, based on web-based tool, follow. Not all performance indicators of the PAs are part of funding formula. PAs can be linked to the strategic funding component. Providing information for national database (KOTA) is mandatory. Government informs HEI every year on progress. Outcomes are made public. Additionally, there are site visits (particularly if the HEI does not perform well or well enough).  Different PAs for polytechnics (see country report Finland in Part Two).
NORTH-RHINE WESTPHALIA	Since 2002, 2-year performance agreements (third agreement was for 4-years). The 40-page document (2012/14) contains general and concrete agreements. The topics covered are: institutional profile, public budget, teaching (number of student per discipline, the intake capacity of institutions for new entrants, <i>Hochschulpakt</i> <sup>160</sup> agreements, quality assurance, capacity teacher training, supply for 'non-traditional' students), research (such

<sup>160</sup> The number of (potential) enrolments has doubled for some years because of a structural change in the system of upper secondary education. To regulate this substantial but incidental increase the *Hochschulpakt* (I and II) has been established, by means of bilateral contracts that are part of the target and performance agreements.

COUNTRY	MAIN CHARACTERISTICS OF PERFORMANCE AGREEMENT
	as collaboration, profiling, PhDs, third party research), valorisation (such as patenting, collaboration), gender issues, internationalisation (such as collaboration, mobility of students and staff), linkages with upper secondary education, infrastructure and delivery of information and data.
<b>THURINGIA</b>	Next to funding model, since 2003 there is a 4-year Framework Agreement as well as 4-year bilateral performance agreements. The Framework Agreement is signed by three ministers and the nine HE institutions. Aims to give financial stability and structural development of HE landscape. It lists the key objectives for the sector, in return for public funding. The Framework Agreement shall be discussed every year. Institutions and ministry establish 4-year bilateral contract based on the framework Agreement on the basis of negotiations. Targets basically overlap with the Framework goals. The 30-40 page bilateral contracts focus on: overview of qualitative and quantitative institutional goals, planned measures for goal achievement, infrastructure investment, human resources, quality assurance, transparency and information measures.
<b>HONG KONG</b>	UGC, addressing student number targets and manpower requirements, invites institutions to draft 3-year Academic Development Proposals. UGC discusses ADP with institutions and internal work group. Evaluation criteria used are: strategy, teaching and learning, advanced scholarship and community. Next, HEIs calculate the costs, checked by the UGC who uses the recurrent grant funding formula to send funding recommendation to the government.  The ADP-process is largely controlled and coordinated by the UGC. The UGC also evaluates whether or not ADPs have been realised. Consequences may be taken into account for the next 3-year cycle.
<b>IRELAND</b>	Minister for Education has developed a System Performance framework, stating national priorities and key objectives, including measurable high-level indicators. In consultation with the Higher Education Authority (HEA), institutions develop individual three-year institutional performance compacts that reflect the institution's contribution to the national agenda. The compacts are still in its initial stages and in the first (pilot) year mainly meant to strengthen the strategic dialogue between HEA and institutions. In the next stage, an institution's progress in meeting its compact objectives will in principle have an impact on its core funding (10% is at stake).
<b>The NETHERLANDS</b>	In 2012, the Ministry started a system of performance agreements where each institution had to specify ambitions with respect to education-related goals and how it sought to differentiate itself from other institutions. A conditional budget (amounting to 5% of the institutions' allocation for education) is tied to ambitions relating to seven performance indicators, and a selective budget (2% of the education budget) is competitively awarded (ex ante) to institutions that in their performance plans particularly seek to achieve differentiation ambitions in line with the national and European agendas. An independent Review Committee evaluates and monitors the agreements. After the contract period it establishes whether the (7) indicator-related goals have been achieved, based on evidence submitted by the institutions.
<b>SCOTLAND</b>	Since 2012, there are 3-year outcome agreements, aimed to demonstrate universities' impact from public investment and intends to maintain the diversity of Scotland's HE system. The outcome agreement annually set targets about priority areas institutions will

COUNTRY	MAIN CHARACTERISTICS OF PERFORMANCE AGREEMENT
	work on. In four broad areas (opportunity, innovation, graduates employability & enterprising, and sustainable institutions) more than 20 issues and indicators were listed.
TENNESSEE	No separate individual performance agreements
LOUISIANA	Board of Regents enters 6-year agreement to develop long-term performance goals and progress measurement. The agreement has annual performance targets unique to each institution. Institutional participation is voluntary; agreements however are legally binding. Targets in the agreements were negotiated with several stakeholders (with board of regents and institutional leadership as the most important ones). The contracts have a general format, with attachments with the targets and indicators that differ from one institution to the other. In total, there are up to 90 targets, ranging from 10 to 70 per institution.
SOUTH CAROLINA	No performance agreements

## Appendix D: Experiences with Performance-based funding and Performance Agreements

COUNTRY	EXPERIENCES WITH PBF AND PAs
AUSTRALIA	<p>First two rounds of Compacts suggest that they amount to a bureaucratic burden with little positive effects on institutional behaviour. Doubts about future use of Compacts in its current form.</p>
AUSTRIA	<p>In the period 2007-2012 the funding model consisted of basic budget (linked to PAs) and formula-based budget (20%, competitively distributed). Formula-based budget was too complex and not transparent. Relationship between funding and performance was unclear. Criticism on selection of indicators that were both input and output based. The share of the competitive, formula-based funding (20%) was too small to affect institutional behaviour (although institutions improved on several performance areas). Steering effect of performance driven parts of the model seems low, although <i>Wissenschaftsrat</i> concluded that PAs have contributed to a more diversified Austrian HE landscape. Other critique: overlap between PAs and other instruments/plans, such as the development plans of universities, impact PAs hard to measure, not a 'level playing field' because it is easier for specialised institutions to profile themselves than for comprehensive universities.</p> <p>Suggestions to introduce the study place funding model (with among other things stronger role for national development plan) and calculation of basic budget based on (a limited number of performance) indicators (see country report Austria).</p>
DENMARK	<p>Performance-based allocation for teaching (taximeter) has been in place for a long time already, with several adaptations (e.g. bonus system – effects yet unknown). While performance-based research funding seems <i>relatively</i> low (compared to the teaching component) it affects the institutions. Third party funding and publication outputs have increased but it is unclear whether this is due to the performance-driven allocation of funds.</p> <p>Downsides of performance-driven allocation mentioned are: potentially narrowing the university's purpose, as it can marginalise 'non-performance-based' activities, prioritises output over impact (citations are not part of the funding formula), and empowering managers over academic professionals. Risks of homogeneity instead of diversity. Risk of overlap in steering instruments.</p> <p>The first generations of development contracts were felt to be too detailed and process-oriented. There has been a shift from development plans being 'comprehensive strategic plans' to 'selective mission-based contracts'. Reduction of the number of targets – avoiding contracts that are too lengthy. Contracts have become 'smarter'. Universities adapted behaviour in terms of acting more strategically.</p>
FINLAND	<p>Aims of PBF and PAs are: boost productivity and impact, increasing performance (through more efficiency, internationalisation and quality), increase mutual understanding between government and HEIs, gain insights in performance of system and HEIs, and enhance accountability and transparency. Government reports progress and is positive about steering effectiveness: HEIs act more strategically (profiling), with positive impact within the institutions. Better cost and performance awareness. Improved dialogue.</p>

COUNTRY	EXPERIENCES WITH PBF AND PAs
	<p>Potential disadvantages: 4-year period is rather long and limits flexibility, performance-driven system breeds uniformity, which is uncomfortable for specialised institutions and may limit profiling, it leads to (unwelcome) competition, is vulnerable to manipulation, strong focus on national goals that may not be in line with local goals.</p> <p>Over 20 years there have been some changes: nowadays more dialogue-based (instead of imposed by the state), from 3 to 4-year contracts (political election cycle), implying reduction of bureaucratic burden, reduction of number of performance indicators in PAs (from 13 to 6), adjusting weights for some indicators. After 20 years, the system of PAs is generally well-accepted.</p> <p>Potential future changes (although dependent on outcome of political elections): more emphasis on student feedback survey, number of students earning over 55 credits, adapting assessment of scientific output.</p>
<b>IRELAND</b>	<p>While the experiences are still quite recent, the performance agreements seem to have led to a strengthening of the institutions' strategic orientation and their steering capacity and urged them to seek collaboration with regional partners (as requested by the government).</p>
<b>The NETHERLANDS</b>	<p>In 2014 a Mid-Term Review was carried out by the independent Review Committee that is overseeing the performance contracts. This was done to evaluate progress on performance agreements and withdraw funding in cases where there was evidence of a lack of progress. The Committee concluded that all institutions had made sufficient progress and that the agreements had led to a strengthening of the institutional profiling process and a renewed focus on students' completion rates and education quality.</p>
<b>NORTH-RHINE WESTPHALIA</b>	<p>Performance agreements aimed to foster dialogue between state and institutions in a structured and transparent way. Institutional profiling and national goals' achievement important.</p> <p>Research suggests that there is no (direct), or a low, impact of incentives on performances because volume of performance-based funding is limited. Transparency has increased because results are made public. Performance agreement also effected internal university decision-making in positive sense. Criticism: agreement are too general because government fixes framework conditions. Responding to the same goals leads to homogeneity instead of heterogeneity (institutional profiling does not lead to system differentiation). System creates 'winners and losers'. Because performance-based funding is capped performance improvement may not lead to more income (if others perform even better). Emphasis on quantities instead of qualities can have perverse effects.</p>
<b>THURINGIA</b>	---
<b>HONG KONG</b>	<p>The funding model with the different components, with elements of competition, are believed to have been effective in setting system direction. The RAE, part of the research funding, is believed to have led to improvements in research and has strengthened accountability. Despite improvements and, in general acceptance of the system, there are complaints about the 'publish or perish' culture and the administrative burden. The RAE productivity push also had effects on HR-policies – less tenure positions and punishing 'underperforming' staff by increasing their teaching loads.</p>

COUNTRY	EXPERIENCES WITH PBF AND PAs
<b>SCOTLAND</b>	Outcome agreements seem to help to establish system-wide dialogue. Institutions respond to strategic priorities set by the government. Unclear to what extent ambitions / targets will be realised (too soon to tell). Concerns about the pace (annual targets and reporting) and level of bureaucracy. Idea is to relax the time frame to triennial reporting.
<b>TENNESSEE</b>	There has been no evaluation of the current PBF system, but graduate numbers have gone up (but could be due to economic recession) and institutional policies are changing because of PBF in combination with other initiatives. (Potential) side-effects mentioned: weakening of academic standards, increased compliance costs, reduction of inter-institutional collaboration due to competition, restrictions to admissions (for reputation or increase graduation rates).
<b>LOUISIANA</b>	<p>The performance fund was meant as additional funding. Due to economic recession it however was taken from the core funding, implying that institutions has to perform better for the same level of funds, or maintain their performance for less funding. As the result of this (and institutions being knowledgeable about it) institutions were conservative in setting targets.</p> <p>Nonetheless most institutions pass the Grad Act yearly (meet the negotiated targets) meaning they are performing better. Effects could have been better if the model had been implemented as intended.</p>
<b>SOUTH CAROLINA</b>	The 1996-2002 performance-based funding model and its successor was abandoned in 2006. It was based on 9 success factors and 37 attached performance indicators. Reasons for the failure were a heavily divided sector, indicators did not adequately assess institutional quality, institutions in similar groups were treated equally although serious differences existed, less differentiation in institutional missions possible, potentially huge fluctuations in funding, drop in tax revenues and lack of proof that performance based funding raises performance.



## Appendix E: Some outcomes of the country-focused workshop on Performance Agreements (The Hague, 25-26 September 2014)

The Country-Focused Workshop, attended by representatives from more than 10 European countries, illustrated the complexity, tensions and the variety of views very well. Below are some of the conclusions from the workshop, as well as some of the concerns and recommendations expressed by the workshop participants.

- ◆ With respect to the performance indicators that feature in Performance Agreements it was suggested that:
  - they should not be too new ('experience' with or expertise on indicators will improve their acceptance and working),
  - there should not be too many indicators – focus and reduction of complexity; indicators cannot cover 'everything'
  - ideally, a cost / benefit balance of indicators used should be taken into account (usually however these are unknown)
  - use of mix of indicators
  - How to reward and measure soft targets?
  - Employability is hardly used in PBF and PA's. Arguably, employability indicates system and institutional performance ('quality or relevance?'), but what are proper indicators?
  - Indicator validity is crucial, poor indicators lead to resistance and frustration
  
- ◆ Do not 'blindly copy' the system and process of other countries because of country differences (culture, political and legal system, policy style, size, HE system characteristics and history, strategic agendas, goals and problems); such differences impact the working of PBF and PA's.
  
- ◆ One of the effects of PA's is a 'better relationship' between government and institutions in terms of goal alignment and a better (more focused) dialogue. The dialogue between the state and the institutions is the cornerstone of the performance agreements.
  
- ◆ The best balance between 'basic funding' and 'performance funding' is unclear. Some argued that relatively small amounts of performance-driven allocations can have significant (psychological) effects. Others argued that only 'serious amounts' of performance-driven funding will incentivize institutions.
  
- ◆ PBF and PA's should avoid fluctuations that are too strong. Although many PBF and PA's aim to create differences among institutions or in time, changes in public funding received from one year to another should be within limits – a 5% difference is already a lot
  
- ◆ By the same token, there is disagreement to what extent 'letters on intent' (agreements without (direct) funding attached) can be effective.

- ◆ Performance agreements most likely function well if they are tailored to the individual institution (particularly when PA's should stimulate system differentiation)
- ◆ Performance-driven models are more likely to be accepted (and work) if they are related to extra funding – instead of taken away from basic funding. The counter argument mentioned is that additional budgets likely are vulnerable to budget cuts in times of recession.
- ◆ Ideally, for the sake of stability performance-based models should be 'political proof' (limiting the risk of a change in government)
- ◆ Keep the discussions at the strategic level and focus on long term goals.
- ◆ Using external advisory bodies (e.g. Hong Kong) with international peers
- ◆ Develop a system of performance agreements incrementally – learning by doing.
- ◆ Involvement of stakeholders from the outset enhances success (but responsibilities and expectations should be well-communicated).
- ◆ All stakeholders – but particularly the state – should have clear strategic goals that underpin the agreements. Expectations expressed at the outset are important.
- ◆ Robustness, simplicity and transparency are important for the working of the models and the agreements.
- ◆ Avoid misunderstandings about how performances are measured – there should be no disagreement about the numbers and the databases. The data have to be reliable. Central databases seem to work well. The design, and general mutual acceptance, of a clear infrastructure for monitoring, reporting and feedback is of key importance.
- ◆ As regards the mix of different tools, it has been argued that (formula-based) funding models should contain the performance indicators and (performance) agreements should be used for strategic direction.
- ◆ The effects of PBF and PA's inside the institutions is largely unknown. How do the shop floor levels respond to performance-based models? Has it changed the culture? Has it led to different patterns of governance and interaction? Are the main stakeholders inside the institutions aware of the PA's? Or is it mainly a 'management toy'?
- ◆ Are PA's a proper instrument to look forward? Or are they too much concerned with the past and present?
- ◆ The balance between stimulating institutions to contribute to national goals and maintaining institutional autonomy is one of the concerns. Some regard performance agreements as an intrusion to autonomy.

## Appendix F: Some web-links to performance contracts (per country)

### AUSTRALIA

Mission based compacts 2014-2016: <http://docs.education.gov.au/node/34873>

Mission-based compacts 2011-2013:

<http://www.industry.gov.au/research/MissionBasedCompacts/Pages/default.aspx>

Summary Report on Mission-based Compacts 2011-2013:

<http://www.industry.gov.au/research/MissionBasedCompacts/Documents/SummaryReportMissionBasedCompacts2011-13.pdf>

### AUSTRIA

[http://wissenschaft.bmfw.gv.at/bmfw/studium/studieren-in-oesterreich/oesterr-hochschulwesen/das-oesterreichische-hochschulsystem/leistungsvereinbarungen-2013-2015/](http://wissenschaft.bmwf.gv.at/bmfw/studium/studieren-in-oesterreich/oesterr-hochschulwesen/das-oesterreichische-hochschulsystem/leistungsvereinbarungen-2013-2015/)

### DENMARK

<http://www.au.dk/en/about/uni/policy/aarhus-universitys-development-contract-2012-2014/>

[http://www.sdu.dk/en/Om\\_SDU/Organisationen/Udviklingskontrakt](http://www.sdu.dk/en/Om_SDU/Organisationen/Udviklingskontrakt)

### FINLAND

Examples of performance agreements can be found here (in Finnish):

[http://www.minedu.fi/export/sites/default/OPM/Koulutus/yliopistokoulutus/hallinto\\_ohjaus\\_ja\\_rahointus/yliopistojen\\_tulosopimukset/Sopimukset\\_2013\\_-\\_2016/AYO\\_sopimus\\_2013-2016.pdf](http://www.minedu.fi/export/sites/default/OPM/Koulutus/yliopistokoulutus/hallinto_ohjaus_ja_rahointus/yliopistojen_tulosopimukset/Sopimukset_2013_-_2016/AYO_sopimus_2013-2016.pdf)

[http://www.minedu.fi/export/sites/default/OPM/Koulutus/ammattikorkeakoulutus/hallinto\\_ohjaus\\_ja\\_rahointus/tavoitesopimukset/FUAS\\_2013\\_2016/Laurea\\_Sopimus\\_2013-2016.pdf](http://www.minedu.fi/export/sites/default/OPM/Koulutus/ammattikorkeakoulutus/hallinto_ohjaus_ja_rahointus/tavoitesopimukset/FUAS_2013_2016/Laurea_Sopimus_2013-2016.pdf)

### The NETHERLANDS

Review Committee's website: <http://www.rcho.nl>

Assessment framework and Review Committee's 2012 advice on Performance Agreement per institution:

<http://www.rcho.nl//asp/invado.asp?t=show&var=1058&fontsize=11#>

System-wide agreement on profiling, diversity and the outline of performance agreements (research universities):

<http://www.vsnu.nl/hoofdlijnenakkoord.html>

#### **NORTH-RHINE WESTPHALIA**

<http://www.wissenschaft.nrw.de/hochschule/hochschulen-in-nrw/ziel-und-leistungsvereinbarungen/>

#### **THURINGIA**

[http://www.thueringen.de/th2/tmbwk/wissenschaft/hochschule\\_und\\_studium/hochschulentwicklung/zlv/](http://www.thueringen.de/th2/tmbwk/wissenschaft/hochschule_und_studium/hochschulentwicklung/zlv/)

#### **IRELAND**

<http://www.hea.ie/en/policy/national-strategy/higher-education-system-performance-2014-16>

#### **SCOTLAND**

<http://www.sfc.ac.uk/funding/OutcomeAgreements/OutcomeAgreementsOverview.aspx>