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World Bank Reimbursable Advisory Service on Higher Education Internal Funding and Governance in Latvia

International Trends and Good Practices in Higher Education Internal Funding and Governance

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List of Abbreviations

CHE	Centre for Higher Education
CHEPS	Center for Higher Education Policy
CIO	Chief Information Officer
EC	European Commission
ECTS	European Credit Transfer and Accumulation System
ENQA	European Association for Quality Assurance in Higher Education
ERS	Exploratory Research Space
ESG	Standards and Guidelines for Quality Assurance in the European Higher Education Area
EU	European Union
EUA	European University Association
FU Berlin	Free University of Berlin
HE	higher education
HEI	higher education institution
HR	human resources
ICS	intellectual capital statement
ICT	information and communication technology
IT	information technology
KTH	KTH Royal Institute of Technology in Stockholm
NRW	North Rhine-Westphalia
OECD	Organisation for Economic Co-operation and Development
OECD GSF	Organisation for Economic Co-operation and Development Global Science Forum
QA	quality assurance
R&D	research and development
RCB	responsibility center budgeting
RWTH Aachen	Technical University Aachen
TU	Technical University
TUD	Delft University of Technology
UAS	University of Applied Sciences
UDE	University of Duisburg-Essen
UT	University of Twente
UTA	University of Tampere

Executive Summary

Following a first World Bank advisory service in 2013/14 that addressed the Latvian higher education funding model on the system level, a second higher education project with World Bank support addressing, among other things, the internal funding models and governance arrangements of Latvian higher education institutions (HEIs), was started in 2016. The 2013/14 project led to a reform of the Latvian state funding model for higher education in the form of the introduction of a new, three-pillar model including a performance-based pillar, thereby bringing the funding model closer to European best practices. To complement the changes on the system level, the second higher education project turns to the subsequent developments within institutions—in particular with regard to the question how the new performance-based funding and incentive orientation is reflected on the institutional level—and potentials for further development in the fields of internal funding and governance. To have a normative basis for the assessment of the status quo of internal funding and governance in Latvian HEIs, two sets of requirements, one for good internal funding models (see Table 1) and one for good internal governance arrangements (see Table 2), are developed in this report, based on international trends and good practices in the two fields.

Internal funding and governance are key components of the strategic steering capacities of HEIs. In relation to changes of funding models and governance approaches on the system level, various developments within institutions can be observed for both fields in the more recent past. In many countries, among them most European ones, there is a general shift toward output-oriented steering approaches by governments supported by increased institutional autonomy. Institutions responded to these new steering approaches by adapting their internal funding models and governance arrangements accordingly. Despite differences among countries and institutions related to their particular histories and characteristics, more general lines of development can be identified—as can a range of good practices of how institutions can react to the emerging challenges.

Public HEIs are expected to meet policy goals in a cost-effective way throughout European higher education systems. Because internal allocation models are designed to incentivize both revenue growth and cost control, set targets, and fund strategic priorities, they play a key role in HEI attempts to meet this expectation. Internal funding models that work well are able to align with external revenue streams and reflect national goals, thereby increasing the incentive compatibility between institutional directions and policy goals. For that reason, system-level funding, particularly performance-based funding, has been regarded as an important force in shaping the internal allocation models of HEIs.

At the same time, internal funding models are increasingly taking into account institutional strategies and profiles, including those appearing at the level of units (faculties, schools, institutes, departments). International trends show that financial autonomy of institutions can be strengthened through an increased level of resource diversification, also at the level of units. Generation of additional income through multiple new or existing funding sources contributes to balancing the income structure of the institution and units and, thereby reduces the resource dependency on any single source of financing, including state funding.

In many countries, a reasonable level of unit autonomy (control over the income a unit generates) is considered a particularly important prerequisite for sustainable strategic development of the whole institution. The main rationale behind higher autonomy of units is that it is believed to support responsibility, flexibility, efficiency, transparency, and entrepreneurial thinking. Autonomous units are considered to be more

responsive to strategic initiatives and to generating, deploying, and allocating their own income streams in a way that supports their cost-effective operation. However, an important prerequisite for granting a higher level of autonomy is the size of a unit. Therefore, the current international trend is to favor bigger unit sizes, with a high level of operative and financial autonomy. Sufficient size of the units allows them to develop their own specific objectives under the broader framework of an institutional strategy.

Many European institutions use block grants and formula funding. Block grants and formula funding support a decentralized budgeting approach by allowing greater freedom for units in their financial decisions. At the same time, funding formulas are expected to lead to an increased level of transparency and legitimization of allocation decisions. Formula funding supports stronger performance orientation, particularly by offering incentives that are able to link institutional goals and resource allocation.

At the same time, increased unit-level autonomy often needs a counterbalance, which can be achieved through the creation and effective use of strategic central funds (reserves). Allocations of these funds are often based on discretionary decision-making processes on the part of the institution's central leadership.

In several countries, performance-based funding is allocated internally primarily to units, but staff salary schemes, including a wider performance component, are used in parallel. Keeping a right balance between allocations to units and individuals is important. When funding is channeled to the unit level to support research and teaching, monetary incentives can simultaneously facilitate development in these areas, thereby also benefiting individuals.

Institutions rarely have a pure budgeting model that relies on a single allocation principle. Rather, institutions rely on hybrid models that combine elements from several allocation principles. Most institutions use a budgeting mix that includes input- and output-based funding formulas plus some discretionary funding that can be used to achieve particular priorities or address financial problems. Nevertheless, most institutions seem to search for a balanced structure in light of the functions of the three-pillar model, that is, between "basic funding" offering stability (Pillar 1), performance-based funding fostering productivity (Pillar 2), and profile/innovation-oriented funding promoting change (Pillar 3). Internal target agreements are often used to bring further balance between funding streams allocated under the three pillars and goal orientation toward the strategic objectives of the institution and units.

Based on the above, it is evident that there is no single best allocation model. Institutional culture, history, disciplinary composition, and other factors influence the right allocation model for an institution. Moreover, each model has its own strengths and weaknesses. Institutions in general need to balance among many interests and (temporary) contexts or performance levels of various units while striving for different strategies or pursuing different profiles. Therefore, HEIs should be autonomous in choosing among the many alternatives of funding models and options.

However, based on a detailed analysis of the aforementioned developments and good institutional practices in reacting to them, general normative requirements for "good" internal funding models were developed. These requirements provide a broad framework for the assessment of internal funding models, and are derived from and backed by the following sources of information:

- System-level criteria for "good" funding models the World Bank team used in its analysis "Higher Education Financing in Latvia: Analysis of Strengths and Weaknesses" (2013–2014)

- International, particularly European, experiences, good practices, and standards on internal funding models based on findings from the recent research literature
- The team members' professional expertise in the field.

The team identified the six (A–F) major requirements shown in Table 1, which are broken down to subsections. Chapter 2 of this report contains the development of those requirements based on the sources of information mentioned.[1]

Table 1. General requirements for a "good" internal funding model

A. Strategic orientation	A.1. Aligning internal funding model with external revenue streams and reflecting national goals
	A.2. Promoting institutional strategies and profiles
	A.3. Promoting unit-level objectives
B. Incentive orientation	B.1. Creating performance rewards and sanctions
	B.2. Providing clear and nonfragmented incentives
	B.3. Avoiding undesired side effects
C. Sustainability and balance	C.1. Combining top-down and bottom-up approaches
	C.2. Providing a sufficient level of stability
	C.3. Guaranteeing continuity in development
	C.4. Balancing the overall model architecture
	C.5. Promoting diversification of unit-level funding sources
	C.6. Balancing the key institutional missions
D. Transparency and fairness	D.1. Ensuring transparency
	D.2. Supporting the perception of fairness
E. Level of autonomy and flexibility	E.1. Guaranteeing financial autonomy and academic freedom
	E.2. Implementing an adequate level of regulation
F. Link to governance and management; practical feasibility	F.1. Increasing reliability and availability of data
	F.2. Ensuring administrative efficiency
	F.3. Ensuring coherence with other governance approaches and university culture
	F.4. Ensuring the ability of leadership to act

[1] The structure of Table 1 deviates from the structure of chapter 2, because the requirements derived from the analysis in that chapter were rearranged for greater clarity.

Internal governance arrangements can be considered the backbone of every higher education institution's capacity for coordination and strategic development. Major developments in this field have been triggered by changing approaches toward the governance of higher education systems, namely a shift toward more indirect forms of steering higher education systems centered on the autonomy of HEIs. Adding to this are growing challenges for institutions to thrive in increasingly volatile, competitive environments. As a result, institutions experience increasing pressure to develop capacities for acting strategically as integrated actors, and many institutions have indeed developed such capacities.

Institutions have increasingly determined the direction of their future development. Institutional strategies and action plans have become the main instruments for this purpose. Promoting the overall quality of strategies and their impact, strategy development processes comprising a thorough analysis of institutional strengths and weaknesses and their relation with the institutional environment, and the involvement of internal stakeholders have emerged as particularly important. In addition, increasing attention has been given to processes of strategy implementation and monitoring implementation progress. Institutions have also become engaged in increasing the fitness for purpose of their internal governance arrangements.

Another important aspect of internal governance is arrangements related to academic freedom and integrity, and to accountability. Institutions have established measures for preventing and dealing with academic misconduct, as an important component of their attempts to enhance accountability toward their environment. Under the general heading of accountability, quality assurance processes, especially, have gained in importance. In addition, information and data needs resulting from strategic steering activities and new accountability requirements have been given more focus.

Questions concerning internal cooperation and participation in relation to strategic development capacities have emerged under the heading of good internal governance. Recent shifts in rights and responsibilities among different bodies and actors in institutions have led to a fundamental challenge related to the design of internal governance arrangements—that is, finding the right balance between the responsibility of collegial bodies and personal responsibility of leaders on different institutional levels. As part of the same overarching change in internal governance approaches, new ways of involving external and internal stakeholders in the internal governance of HEIs have evolved.

Good internal governance also concerns the differentiation of functions and the distribution of powers within institutions. A key challenge for institutions in that respect is separating strategic and management tasks, framed by a suitable balance of powers and adequate checks and balances. In addition, institutions also need to find the right balance between powers on the central and lower institutional levels, that is, the adequate degree of devolution. Designing internal governance structures and processes so they are efficient has become an important and challenging task for institutions as well. Changes in governance arrangements have also reached the level of the individual manager and administrator, where new activity profiles together with new skill demands have emerged.

Despite similar developments in many countries, there can be no one-size-fits-all solution for designing internal governance arrangements. Higher education systems have different histories, traditions and values, regulatory frameworks, and overall approaches to governance. Similarly, institutions exhibit particular historical traits, and traditions and values, and differ in, among other things, size, composition, and profile. Both types of particularities influence which way of designing internal governance structures and processes would be best.

However, based on a detailed analysis of the aforementioned developments and good institutional practices in reacting to them, general normative requirements for "good" internal governance arrangements were developed. These requirements offer a broad framework for the assessment of internal governance arrangements and are based on:

- international, particularly European, experiences, good practices, and standards for designing internal governance structures and processes derived from findings from the recent research literature
- the World Bank team members' professional expertise in the field.

Using these sources, the team has identified four (A–D) major blocks of requirements (see Table 2). The development of those requirements is presented in chapter 3.

Table 2. General requirements for "good" internal governance arrangements

A. Strategic development and governance	A.1. Having in place clear and precise institutional strategies aligned with institutional strengths/weaknesses and their environment
	A.2. Having in place action plans that structure and support the strategy implementation process
	A.3. Basing strategies on in-depth analyses and involving internal stakeholders in the strategy development process
	A.4. Developing measures for the implementation of strategies
	A.5. Monitoring the strategy implementation process and adapting instruments/objectives if necessary
	A.6. Securing and monitoring fitness for purpose of governance structures
	A.7. Accompanying institutional developments with change management
B. Autonomy and accountability	B.1. Securing academic freedom
	B.2. Maintaining academic integrity
	B.3. Anchoring accountability measures and quality assurance in governance structures
	B.4. Establishing adequate monitoring procedures and management information systems
C. Good governance 1: Cooperation and participation	C.1. Balancing responsibility of collegial bodies and personal responsibility and maintaining a cooperative approach
	C.2. Involving external stakeholders in institutional governance and securing their proper conduct
	C.3. Developing appropriate ways of involving internal stakeholders on different institutional levels

D. Good governance 2: Differentiation of functions and distribution of powers	D.1. Separating strategic and management tasks framed by checks and balances
	D.2. Equipping central leadership with sufficient and adequate competences
	D.3. Securing efficiency and transparency of governance structures
	D.4. Establishing an adequate level of devolution
	D.5. Ensuring staff development and developing human resource strategies

The two sets of requirements, one for good internal funding models and one for good internal governance arrangements, will be taken up by a second report under the current higher education project to assess the status quo of internal funding and governance in Latvian HEIs. Together with the outcomes of the status quo assessment, the outcomes of the report at hand will serve as the basis for recommendations for the further development of internal funding and governance by Latvian HEIs to be presented in spring 2017 in a third report.

1 Introduction

Following a first World Bank higher education advisory service in 2013/14 that addressed the Latvian higher education funding model on the system level, a second higher education project with World Bank support addressing,[2] among other things, the internal funding models and governance arrangements of Latvian higher education institutions, started in 2016.[3] The 2013/14 higher education project led to a reform of the Latvian state funding model for higher education in the form of the introduction of a new, three-pillar model including a performance-based pillar, bringing the funding model closer to European best practices. To complement the changes on the system level, the second higher education project turns to the subsequent developments within institutions—in particular with regard to the question of how the new performance-based funding and incentive orientation is reflected on the institutional level—and potentials for further development in the fields of internal funding and governance.[4]

To devise a normative basis for the assessment of the status quo of internal funding and governance in Latvian higher education institutions, and for recommendations addressing potentials for further development, two sets of requirements, one for good internal funding models and one for good internal governance arrangements, are developed in this report. This report is based on the research of the World Bank Latvia higher education financing team[5] on international trends and experience with internal funding and governance and good practices in the field. Both topics were approached from the perspective of institutional capacity for strategic steering. The relevant research literature (scholarly articles, policy reports, consultative papers, and so forth) was analyzed, complemented by the expertise and experience of the World Bank team's members in the field and their perspective on successful examples. Those different sources of information were combined in the analysis to identify normative requirements that effective and efficient internal funding models and governance arrangements must fulfill. While comprehensive cross-country data existed for the system-level analysis of the first higher education project, such data on internal funding models and governance arrangements do not exist; practices vary greatly among and even within countries. Therefore, case examples are used to highlight some of

[2] The term "project" is subsequently used for this World Bank higher education advisory service.

[3] Historically, the second higher education project is therefore anchored in financing reform, and the financing work under the second project is linked to earlier work. Financing is thus discussed first in this report, while governance—which was introduced as an additional theme to the first project—follows in the later section of the document.

[4] The Legal Agreement between MoES and the World Bank stipulates that Phase 1 of the new engagement focuses on "university-internal governance and performance-based financing in Latvian HEIs' envisaging three outputs: one on international trends and practices, one on the status quo in Latvian universities (this report), and related recommendations. The discussion presented in this report is based on information provided by MoES and individual HEIs, including in the context of in-depth interviews during site visits. These interviews were structured by criteria developed in close consultation with MoES and related questionnaires. The report primarily focuses on performance-based funding (that is, Pillar 2 funding) since incentives for institutional performance are primarily set through that pillar, while Pillar 1 contains base funding provided by MoES and Pillar 3 funding is considered to cover European Structural Funds for higher education at the system level. A comprehensive discussion of these two funding sources and their implications on the institutional level would have been beyond the scope of this report.

[5] Members of the World Bank higher education financing team are Dr. Nina Arnhold, Senior Education Specialist and Task Team Leader, World Bank; Adjunct Professor Jussi Kivistö, University of Tampere, Finland; Vitus Puttmann, Consultant, World Bank; Professor Hans Vossensteyn, Director of the Center for Higher Education Policy (CHEPS), the Netherlands; and Professor Frank Ziegele, Director of the Center for Higher Education (CHE), Germany.

the points taken from the reviewed literature and to provide insights into practices considered promising by the World Bank team's members.

The first phase of the second project, focusing on internal funding and governance, will produce three major outputs. The two sets of requirements developed in this report will be taken up by a second report in order to assess the status quo of internal funding and governance in Latvian higher education institutions. In methodological terms, the second report relies on the study of available documents and detailed information on individual institutions, information obtained during in-depth interviews primarily conducted during site visits to institutions, and workshops and verification meetings. The report at hand is made available to the public at the same time as the second report on the status quo in Latvia (in December 2016). Building on both outputs, the team will prepare recommendations for the further development of internal funding and governance by spring 2017, which will be published in a third report.[6] This first phase will be succeeded by a second phase in 2017/18 that will address questions of academic selection, promotion, and remuneration. These topics are thus discussed only to a limited extent in this report.

[6] During the first phase, another analytical output was developed, namely a note on Latvian doctoral education and promotion, which was prepared by Dr. Andrée Sursock, EUA Board Member and World Bank Consultant.

2 Internal Funding

2.1 General Developments

Basic Considerations on Funding of Higher Education Institutions

Higher education institutions (HEIs) serve societies in many ways. They prepare knowledgeable and well-skilled graduates, engage in basic and applied research, and provide a range of services to their economic and social environment. As economic entities, however, HEIs are expected to transform *inputs* (human, financial, and physical resources) through teaching, research, and service activities into quantifiable and measurable *outcomes* such as skilled labor market entrants, patentable knowledge, and civic-minded citizens. **This means that HEIs (like many other organizations) use more than one type of input to produce more than one type of output.** Some of outputs are tangible, such as degrees awarded, but some are less tangible, such as the societal impact of research. In economic terms, HEIs are multiproduct organizations characterized by joint production of various teaching and research outputs, so that different activities are to some extent dependent on each other (for example, Garvin 1980; Johnes and Taylor 1990; Kivistö 2007).

Despite this relatively simple setting, the underlying dynamics of production technology of modern HEIs is complex. Unlike for-profit firms, HEIs are economically one-sided rather than two-sided. Their *costs* (for example, related to staff and premises) follow a market logic of supply and demand. That does not apply to the *outputs* of HEIs, which distinguishes them from for-profit firms. The outputs of teaching and learning processes, for example, are not sold and bought in markets, especially in the case of public HEIs. That makes it difficult to determine the market value of those outcomes. Therefore, HEIs face challenges in evaluating their outputs in relation to the costs of the inputs used to make them (Massy 1996; Jongbloed and Vossensteyn 2001; Kivistö 2007). Because of the joint nature of higher education products and the interdependence of resources, the internal modification of production technology is relatively easy to accomplish inside institutions, but extremely difficult to control externally. Moreover, HEI production technologies are not identical, but rather differ greatly in many respects across the fields of study and science.

The nature of HEIs, like economic entities, among other things, sets important boundary conditions for designing the internal allocation mechanisms, which in turn play a key role in supporting the operation and activities of HEIs as production units. The two central functions of budgeting are to keep a balance between revenues and expenditures, and to determine the "right" mix of inputs and outputs to achieve the best possible results. Therefore, budgeting creates an institutional framework for acquiring resources (inputs) from different sources and for distributing them among organizational subunits—faculties, departments, research centers, and so forth—in order to realize teaching and research activities and products (outputs), which can again lead to the acquisition of additional resources (inputs), for example, through the commercialization of research results.

Budgeting maintains organizational identity and promotes the coordination of collective action, and helps to set and communicate institutional priorities, given that there are never enough resources to satisfy every unit-level and individual need (Lepori, Usher, and Montauti 2013; Lasher and Greene 2001). As such, budgets are crucial signs showing what an HEI is de facto committed to do. Therefore, budgeting plays an integral part of strategic decision making and implementation of institutional strategies, both of which require selective allocation of limited financial resources (Jarzabkowski 2002).

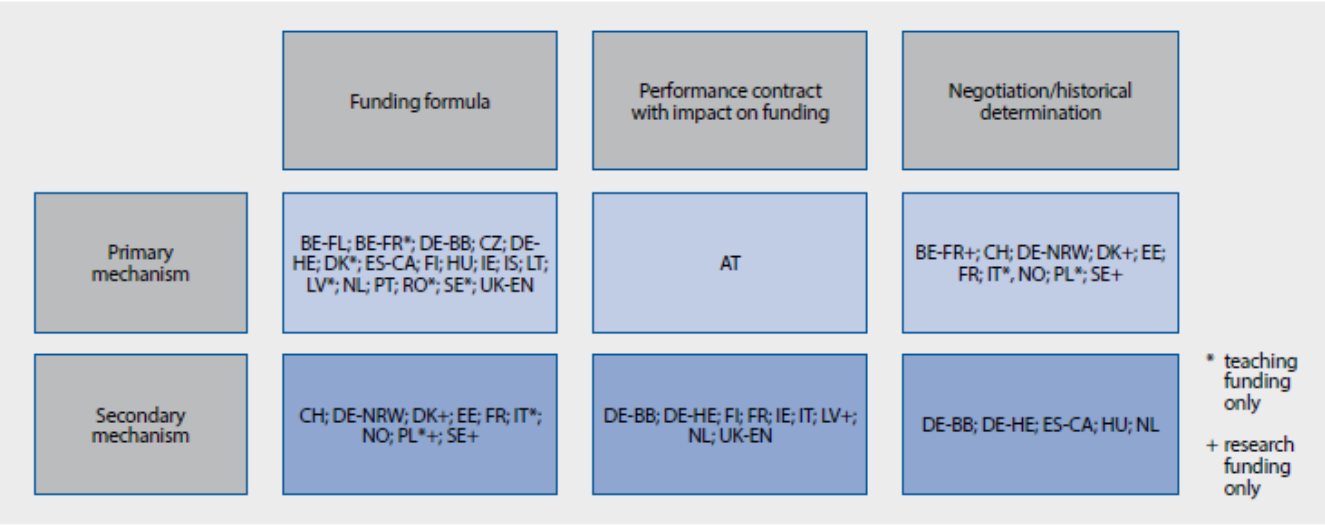
Internal allocation models and budget processes can be redesigned to set performance targets, fund strategic priorities, and incentivize revenue growth and cost control, in so far as there exists a strong institutional commitment to do so. Therefore, budgets must be aligned with strategic priorities and institutional plans. This occurs when strategic planning is not used as the basis for developing budgetary goals and assumptions (Murpy and Katsinas 2014). In such situations, budgets might reinforce the wrong objectives, or no objectives at all. Strategically disoriented budgets tend to lock in damaging cost structures, underfund strategic priorities, and create harmful incentives both in terms of revenue generation and spending. Therefore, institutions should think critically about how their resource allocation choices reinforce (or obstruct) their strategic priorities (Education Advisory Board 2014). For instance, the link between strategic development plans and the allocation of basic funding (Pillar 1) can be made more explicit by linking the staff numbers fixed in an institutional development plan with funding per staff (which would lead to a reallocation in Pillar 1 if strategic plans and the respective staff numbers related to the plans were to change).

European Trends in System-Level Funding Models

At the system level, funding is more than just a mechanism to allocate financial resources to HEIs; it is an integral part of a wider body of policy instruments used to maximize the desired societal output with limited public resources. Governance and funding are therefore often two sides of the same coin. For instance, questions on how much autonomy and monitoring HEIs need in order to meet societal expectations is an important funding issue when it comes to autonomy in internal resource allocation, but at the same time it constitutes a larger governance issue in terms of the balancing of responsibilities between HEIs and the state (Jongbloed 2010). In many countries, growing accountability requirements set by the governments have been accompanied by granting HEIs more institutional autonomy. At the same time, the efficiency of funding in terms of the capacity of HEIs to meet policy goals in a cost-effective way has become increasingly important throughout European higher education systems (Bennetot Pruvot, Claeys-Kulik, and Estermann 2015).

In particular, the following general trends can be observed in state allocations to HEIs: formula funding has gradually become more widespread, outputs start to play a more important role in formulas, state funds are allocated to institutions as block grants, and the significance of performance contracts (target agreements) has grown, although mostly only as a secondary and complementary mechanism (see Figure 1 and Figure 2).

Figure 1. Overview of allocation mechanisms of public funding



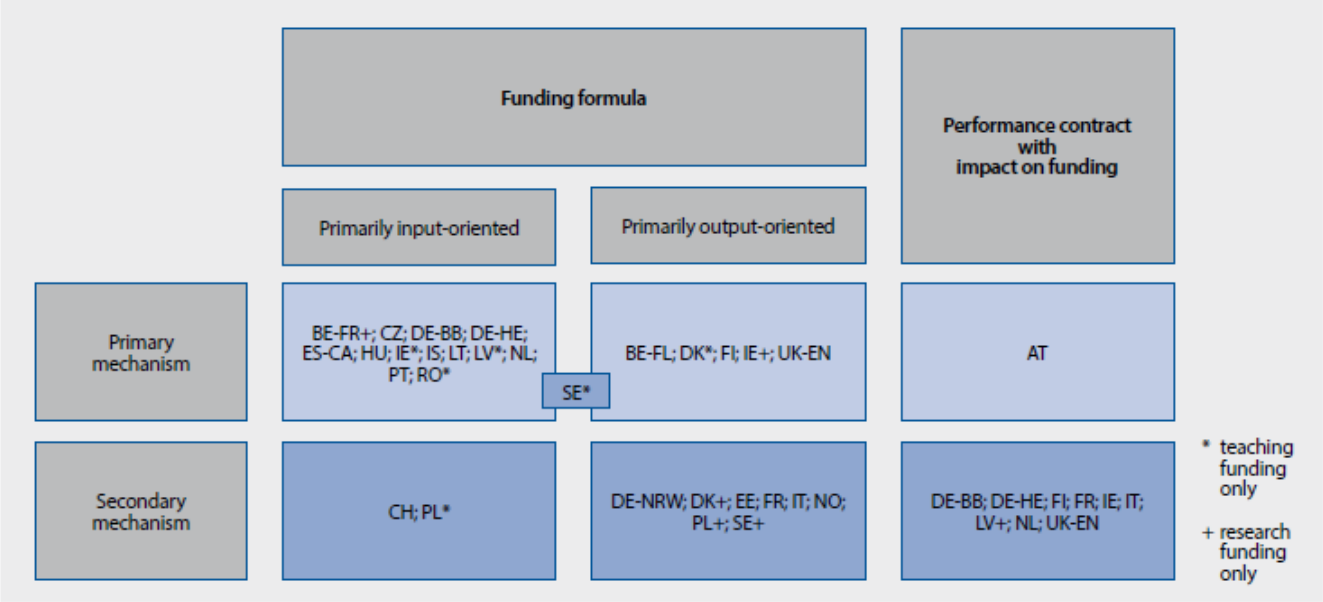
Source: Bennetot Pruvot, Claeys-Kulik and Estermann 2015, 26.

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

A recent study by the European University Association (EUA) concludes that most formulas include a combination of input- and output-related indicators as well as several other indicators linked to specific policy goals (such as internationalization, gender aspects, interaction with society). In countries where funding formulas for teaching and research are distinct, formulas for teaching funds are in most cases primarily input-oriented (for example, number of staff required for teaching certain numbers of students), while formulas for research funds are primarily output-oriented. For systems that have one formula incorporating indicators for teaching and research, the formula is primarily input-oriented, although some examples of very strong output-orientation can also be found, such as Finland (Bennetot Pruvot, Claeys-Kulik, and Estermann 2015).

The most common method of allocation remains a primarily input-based formula, often combined with other mechanisms such as target agreements, negotiated budgets, or historical allocations (see Figure 2). However, a majority of European higher education systems consider their basic funding allocation mechanisms to be at least partially performance-based for teaching (via graduate-related criteria). In performance-based research funding, most common output-based research indicators include research assessment/evaluation results (used, for example, in the UK, France, Hungary, the Czech Republic), external/international/EU funding obtained (for example, Finland, some German states, Poland, Ireland), or research contracts obtained (for example, France, Italy, Portugal, Romania), doctoral degrees obtained/theses completed (for example, Norway, the Netherlands, Belgium), and measuring publications/citations (for example, Hungary, Norway, Sweden). The term "performance-based funding" is understood very differently across Europe, however, often without a clear distinction between the "input" or "output" criteria composing the funding formula (Bennetot Pruvot, Claeys-Kulik, and Estermann 2015).

Figure 2. Performance elements in public funding for universities



Source: Bennetot Pruvot, Claeys-Kulik and Estermann 2015:39.

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

As was already concluded in the World Bank assessment "Higher Education Financing in Latvia: Analysis of Strengths and Weaknesses" (2014), the current higher education state funding model in Latvia was found to be in line with the status quo of most of the European systems, particularly with respect to the first-pillar funding (basic funding).[7] Now, after introduction of the performance-based funding component as of 2015, the Latvian higher education funding system also corresponds more fully to European practices in the case of second-pillar funding. Overall, the Latvian higher education funding model is in line with European developments in the following three respects.

First, the primary mechanism for allocating funding is an input-based funding formula of study places. However, compared to other countries using an input-based formula for funding education, the Latvian model still more resembles a "price model" than a "distribution model." In the price model, the budget is calculated by multiplying the prices/defined standard costs by the number of students. In the distribution model, the budget cap is given and the allocated sum is calculated by dividing the budget by the (relative) number of students per institution (cf. Ecker, Leitner, and Steindl 2012). Currently, the Latvian model allocating Pillar 1 funding (for education) is a mixture of these two approaches. Although the allocation logic follows the distribution model (budget is "capped"), the thinking behind it still follows the idea of prices (the gap between "minimum" and "optimal" value of a study place). For research funding, a formula is applied that includes mainly input-based

[7] For a detailed discussion, see pages 18–22 of the World Bank report "Higher Education Financing in Latvia: Analysis of Strengths and Weaknesses" (2014).

variables (infrastructure costs, wages for scientific personnel, and a coefficient that incorporates performance-based criteria) (World Bank 2014).

Second, performance-based funding (under Pillar 2) is clearly a secondary-level funding mechanism due to its significantly smaller proportion compared to the size of the Pillar 1 funding. The indicators currently used in the second-pillar funding (employed young scientists, international R&D funding, attracted R&D contract funding, attracted R&D funding/subsidies from local municipalities, attracted funding for creative and artistic projects) are, in principle, in line with current European practices.

Third, like in many other European countries, target agreements in Latvia have an impact on HEI funding, which currently, in terms of the proportion/volume of funding, takes place (mostly) through the allocation of state-funded study places.

Overview of Developments in Internal Funding Models

Unlike on the system level, comparative international studies focusing on internal funding models or their degree of similarity with the system-level funding model have not been conducted. However, a general overview can be given by combining different studies on individual countries.

In some studies focusing on single-country contexts, system-level funding has been regarded as an important force in shaping the internal allocation models of HEIs (see, for example, Jongbloed and van der Knoop 1999). Despite the lack of comparative studies, it can be suggested that the general international trend in internal budgeting has been to move away from incremental (also known as "historical budgeting") and line-item budgeting toward the more frequent use of block grants.

In line-item budgeting, funding is allocated to specific items of expenditure that constitute the major inputs of the production processes, including costs related to staff salaries, facilities, and other major and minor operating expenses. After a budget period, the budgeting authority of an HEI, such as the financial department, reviews the expenditures to find out whether the funds were spent on the purposes for which they were appropriated. This review is based on the questionable assumption that allocating funds item by item also promotes their appropriate and effective use (for example, Massy and Hulfactor 1993; Sheehan 1997; Hughes 2003). Line-item budgets are usually incremental, although not all modes of incremental budgeting are based on line-item allocation, and not all line-item allocations are by their nature incremental (for example, "zero-based" budgeting could be used too).

Incremental budgets mean that the previous budget base of a budgeting unit is incremented or reduced (that is, "decremental" budgeting) depending on the wider institutional budgetary conditions (Massy 1996; Ziegele 2008). Incremental budgeting is an attractive choice for many institutions because it is relatively easy to implement, provides budgetary stability, reduces conflicts between units, and allows units and institutions to plan ahead multiple years, due to the high level of predictability attached to the model. However, while incremental budgeting has served HEIs well in times of stable environments and constant growth, it appears to be ill-suited to meet the current demands for improved performance, efficient resource allocation, and complex, rapidly changing operating environments (Education Advisory Board 2014).

In line-item budgeting, much of the administrative attention is given to increases or decreases in expenditure categories, because the base budget has often become too complex to determine whether the allocated funds are still serving the institutional goals. At the same time, items of expenditure within a budget are rigid in the sense that units have little or no flexibility to move resources among expenditure categories. Moreover, often units are not allowed accumulate surplus and carry it forward, or use surplus funds for other uses without the permission of a budget authority, thereby creating further administrative and operational inefficiencies (for example, Massy 1996; Hughes 2003; Kivistö 2007; Ziegele 2008; Education Advisory Board 2014).

Line-item budgeting also tends to favor centralized budgeting approaches, where budget authorities can insulate operating units by holding each unit's budget base immune to institutional revenue fluctuations as long as this is financially possible. Incremental budgeting historically makes equal "bets" across an institution rather than channeling resources to areas with the greatest potential for academic impact or financial return. Similarly, when faced with deficits, institutions with line-item budgeting must often deploy unsustainable across-the-board cuts because there is no objective criteria to evaluate the level of performance or goal orientation of units. Therefore, when making budget adjustments, representatives of institutional leadership (rectors, deans, budget managers) often must balance their arguably subjective understanding of the needs and priorities of budgeting units, and often use simplistic models such as eliminating professorships from units when professors retire or leave the institution. Thus, a line-item approach does not create financial incentives for individuals or operating units to grow the institutional revenue base, engage in activities to cut costs or, more importantly, align activities consistently with institutional goals. On the contrary, a line-item approach leads to situations where operating units think they "own" their base funding levels and come to view most of their costs as fixed (for example, Massy 1996; Casper and others 2001; Education Advisory Board 2014).

With block grants and formula funding, many institutions have attempted to overcome the depicted challenges associated with line-item allocations. When allocated as a "lump sum," block grants cover several categories of expenditure, thereby giving units more flexibility and a greater level of autonomy in determining how budgeted funds are to be spent (cf. Salmi and Hauptman 2006). It seems, however, that the introduction of formula funding has been more widespread at the level of higher education systems, and much less so for internal budgeting inside HEIs (Lepori, Usher, and Montauti 2013).

The size of the block grants can be determined in various ways, for example, by negotiation, based on historical trends in base funding (another type of incremental budgeting), or on an ad-hoc basis (for example, targeted or earmarked funding for strategic development or for covering the costs based on unexpected financial difficulties). Part or all of the block grant can also be allocated through a funding formula, that is, an algorithm based on standard input-, throughput, or/and output-based criteria or cost measures to calculate the size of the grant (Bennetot Pruvot, Claeys-Kulik, and Estermann 2015). Formula funding is usually a more decentralized approach than line-item budgeting, and gives greater freedom for unit level; once allocated, units can decide how they spend or internally allocate the resources. Benefits of well-designed formula funding are related to an increased level of transparency and legitimization of allocation decisions, because allocation is automatic and the criteria equal for all units. Moreover, by offering incentives that link institutional goals and resource allocation, formula funding supports stronger strategic and performance orientation (cf. Ziegele 2008).

However, formula funding, like all other allocation mechanisms, has several weaknesses. For instance, to be effective, formula funding requires a reliable management information system, the set-up costs of which can

be high and which can create substantial administrative work. In addition, formulas are retrospective in character (staff and student numbers or costs are from previous years and past performance) and thereby lack an orientation for development, change, and future. Input-driven formulas can also lock in unit costs, making productivity improvement difficult and drawing attention away from institutional goals. However, strong output orientation can lead to the emergence of harmful gaming and to suboptimization, which often involves producing more output quantity with lower output quality (for example, Massy 1996; Kivistö 2007; Barr and McClellan 2011). To avoid undesired side effects, the impacts of an internal funding model should be closely monitored.

Block grants can also create challenges for the strategic steering of an institution. Because the resources are allocated internally to decentralized units, there is a danger that leaders have no financial discretion to invest in strategic priorities. Therefore, institutions should create central funds (to support innovative projects, stimulate research, fund strategic programs, provide seed funding to create readiness for external research income, and so forth), as a counterbalance to decentralized lump sums. In reform processes, the two components often come as a "package deal," that is, units get more financial autonomy and central leaders get some strategic room to maneuver (the role of central funds is discussed further in section "2.2 b) Financial Autonomy and Sustainability").

Few if any institutions have a "pure" budgeting model. Institutions rely on hybrids rather than pure ideal types, and therefore have a range of allocation approaches for different kinds of revenues and costs. This is understandable, since ideal types seldom provide solutions to all an institution's budgeting challenges (for example, Barr and McClellan 2011; Education Advisory Board 2014). Most institutions use a budgeting mix that includes input- and output-based funding formulas plus some discretionary funding that can be used to achieve particular priorities or solve financial problems. Moreover, the overall architecture of internal funding models differs greatly among institutions, but often is composed of several types of appropriations that closely resemble the "three-pillar model." These include (1) base funding intended to cover most or all of the costs associated with staff, facilities; and equipment: (2) performance-based funding allocated through a formula; (3) several types of earmarked grants or funds for specific purposes (usually allocated through ad-hoc procedures, negotiation, or competition); and (4) specific funding arrangements for administrative and support units (usually historical/incremental allocations).

2.2 Main Trends and Good Practices

Whereas the previous section provided an overview on general developments of internal funding models, the following section discusses particular aspects of those developments. Particularly important dimensions, which are covered in detail in the following, are funding models' strategic orientation and incentives; the financial autonomy and sustainability of institutions and organizational subunits; the transparency and feasibility of funding models; and issues related to the balance and context of funding models.

a) Strategic Orientation and Incentives

Institutional Revenues and Internal Allocations / Integration of Teaching, Research, and Third Mission in Internal Funding Models

The internal incentive structures of HEIs should be compatible with the external revenue streams of the institution. This compatibility means basically the necessary level of alignment of external and internal financial incentives, particularly with respect to the state funding model. Therefore, balanced internal funding models can align the internal funding model with external revenue streams and reflect national goals.

Alignment is important because it presumably has a direct impact on the awareness and behavior of units and individuals to be engaged with actions that promote coordinated efforts to secure a sustainable financial basis for the whole institution. Decoupling the logic of revenue generation and internal incentives increases the risk of misguided organizational behavior and unsustainable levels of revenue generation (cf. Jongbloed and van der Knoop 1999). Because budgets can be considered links between financial resources and human behavior, internal funding models and the budgeting process play a substantial part in aligning the incentives derived from institution-external revenue generation and internal incentives guiding organizational behavior (for example, Ziegele 2008).

The trend now is that internal funding models consider institutional strategies and profiles, including those appearing at the unit level (faculties, schools, institutes, departments). For instance, in cases where state funding dominates institutional revenue, HEIs must decide on the appropriate balance between incentivizing attempts to maximize state revenue and actions aimed at strengthening institutional profiling, which could be at odds with the goals of state funding, since state funding formulas treat different universities equally (Ziegele 2008). However, often the internal allocation does not accurately reflect the external revenue generation, but redistributes the money (that is, cross-subsidization occurs among units). As a practice, this is understandable, because, for instance, the "price per graduate" in a state formula is calculated/determined as an average for all HEIs. However, it is most likely that the HEI-specific price (resulting from the respective cost situation) will deviate from the national average. This can easily lead to internal tensions between "winning" and "losing" units. Therefore, in many systems, institutional leadership is expected to play a crucial role with regard to understanding and communicating the rationale for the internal allocation, as it has to balance institutional priorities, secure maximum public funds, and at the same time consider the costs of different institutional and strategic activities (Bennetot Pruvot, Claeys-Kulik and Estermann 2015). Both extremes—appropriating financial resources on a purely income-oriented basis, and working solely on a principle of institutional profiling without considering the financial realities—are likely to be problematic and unrealistic options (Ziegele 2008).

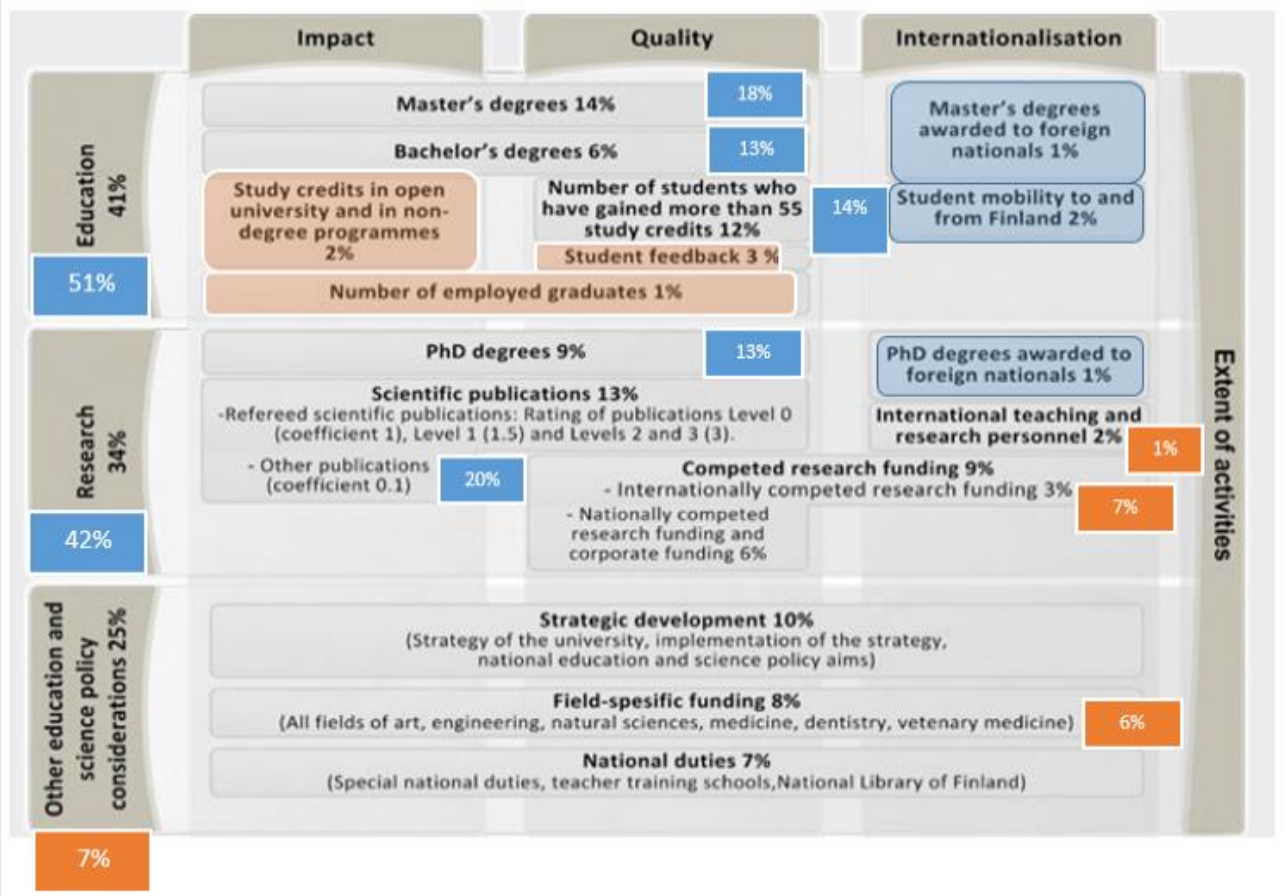
Some studies have shown that although HEIs reshape their internal allocation to be more in line with system-level incentives, especially in the case of performance-based funding, they do not copy the national funding schemes internally. Instead, many HEIs implement internal allocation models that acknowledge institutional specifics (for example, Jongbloed and van der Knoop 1999; Lepori, Usher and Montauti 2013; Kohtamäki 2014). However, based on available evidence, a clear trend cannot be distinguished on how closely institutions have aligned their internal funding models with external revenue streams, and state funding, in particular. External and internal allocation instruments are not necessarily the same, however. Under the same state funding model, some institutions can follow internally a more negotiation- and tender-based approach, while others might prefer automatic, formula-based allocations. For instance, in Finland, which for two decades has applied a strong

performance-based funding system (over 70 percent of the basic funding is performance-based), there still exists great diversity in internal funding models both across universities and with respect to aspects of implementation of the national model. A study conducted by Kohtamäki (2014) found that Finnish universities gave different weights for both teaching and research indicators compared to their weighting in the national funding models, and at the same time used a diverse set of indicators, of which not all were identical with the national funding model. Furthermore, many of the universities applied sizable base funding components for unit-level allocations (mainly historically determined) to create a greater level of internal stability than the national formula would warrant. A similar situation appears to be present in the Netherlands, where most universities apply different internal allocation models that to a lesser or greater extent diverge from the national public funding model. **Well-designed internal funding models are, therefore, able to create performance rewards and sanctions that are in accordance with the institutional culture and mission, while also addressing national priorities and some more specific university priorities.**

The internal funding model of the UTA uses some elements of the national funding formula (see Example 1), but it uses different weighting and partly different indicators: relatively higher weights in the internal model are highlighted with blue boxes, whereas lower weights are highlighted with red boxes. Blue-shaded boxes are identical in their weights in the national and institutional model, whereas the red boxes existing in the national funding model are absent in the internal model. Some of indicators are slightly different; for instance, the publication indicator is less specific in the internal funding model than in the national model, in which publications are ranked in four categories, each with different weights. Also, in addition to an output-based formula, part of the funding is allocated as core funding and strategic funding, as well as other funding to cover all or some of the expenditure of the central management and administration and support university services. Compared to the national allocation model, the UTA internal model is built to be more stable. It contains indicators and weightings that create more fair and equal conditions for different schools (equal to faculties) to gain funding through the internal formula. For instance, “number of employed graduates” is not included in the internal formula, because it would not treat schools equally (for example, School of Medicine graduates have significantly higher employment rates than graduates of the School of Social Sciences and Humanities), whereas Bachelor’s degrees, which treat all schools more equally, are funded with a higher weight compared to the national formula.

Example 1. University of Tampere (UTA) internal allocation model

Figure 3. Finnish state funding model for universities vis-à-vis the internal funding model of the University of Tampere



- In addition to the above depicted formula, the UTA allocation model includes the following components:
    - Base funding for academic units (historical allocation)
    - Funding for administrative services for all units, the library, the language center
    - Strategic funding and the funding of designated for national duties (negotiated and earmarked funding)
    - Other expenditure (for example, expenses of the university Board, Rector, Open University)
    - Division of the accumulated surplus (optional).

Source: Authors based on Finnish Ministry of Education and Culture 2015 and University of Tampere 2016.

Other relevant examples can be seen in the Netherlands (see Example 2). When allocating the state funding internally, the University of Twente (UT) and the Delft University of Technology (TUD) differ in several respects. For instance, by following the indicators set in the state funding, funding is allocated using bachelor's and master's degrees as indicators in the TUD, but not in the UT. The TUD allocates a significant amount of research funding by using bibliometric indicators as allocation drivers, whereas UT, in line with the national funding model,

uses no bibliometric indicators in its internal allocation formula. The TUD seems to put a much higher emphasis on teaching in the internal formula compared to the UT.

These differences in internal allocation models stem from a different philosophy between the institutions. Whereas the UT adheres to a large strategic budget that can be distributed by the research institutes themselves, the TUD puts a stronger focus on academic performance in which the achievements of individual academics, departments, and faculties are calculated in a detailed way. The latter approach can lead to stronger annual fluctuations. As for teaching, at the UT, substantial fluctuations in student numbers two years before the budget year generated too many imbalances in annual faculty budgets, a more stable funding model was introduced in 2013/14 providing most of the funds for the courses provided and only a small component related to student numbers. Regarding research, the UT has—in absolute and relative terms—a substantially lower historically determined "strategic research component," which makes earning as many premiums on PhDs awarded much more important than at the TUD. The TUD argues that a focus on academic articles by definition also stimulates PhD research, because these PhD students produce a relatively high number of articles together with their supervisors.

Example 2. Internal allocation models of universities in the Netherlands

Table 3. Dutch state funding model for universities vis-à-vis the internal funding model of the University of Twente (above) **and of Delft University of Technology** (below)

UT **Components**	**Drivers**	**2014 Budget (in k€)**	**% in yr 2014**	**% in yr 2015**
Education part:				
ECTS premiums	ECTS volume (course credits)	30,473	65%	65%
Add-on per study program	Number of first-year students	11,720	25%	25%
Education stimulus		4,688	10%	10%
Subtotal		46,881	100%	100%
Research part:				
Infrastructure Nanolab	Fixed amount	1,000	2%	2%
Premiums PhDs	Number of PhDs	11,720	18%	22%
Premiums designer certificates	Number of certificates	1,482	2%	0%
Premium research contracts	Research council grants, other competitive funds, EU grants in 3 cost groupings (1 : 1.4 : 2.4)	15,620	24%	0%
Education related component	Education-related research (budget BA-MA ECTS = 30%–70%)	15,620	24%	18%
University research stimulus		5,207	8%	4%
Strategic institute budget	Management contracts (fixed % per inst.)	15,620	24%	24%
Additional institute budget	Contract per institute	0	0%	31%
Subtotal		66,325	100%	100%

TUD **Components**	**Drivers**	**2014 Budget (in k€)**	**% of total Budget**
Education part:			
Performance indicators: 1. SEC Premium 2. Add-on per program 3. Bachelor degrees 4. Master degrees	ECTS credits; 0.2 points per ECTS credit Number of first-year students (1 point/st) 2 points per BA degree 2 points per MA degree	5,160	2.3%
Research part:		**7,224**	**3.2%**
Performance part		90,128	39.7%
1. PhDs	Number of PhDs	18,920	8.3%
2. Education rel. component	BA and MA degrees	16,856	7.4%
3. Premium research contracts	10% premium for every € of competitive grants (in 2010 research councils only)	34,056	15.0%
TUD incentives			
1. Publication in ISI journal	4–10 points		
2. Publication in peer list	4 points		

3.	Scientific book	>80 pages: 4 points		
4.	Scientific book chapter	4 points		
5.	National scientific book part	1 point		
6.	Conference proceeding	>3 pages: 1.5 points	54,696	24.1%
7.	Other scientific publication	1 point		
8.	Chief editorship sc. book	6 points		
9.	Chief editorship proceedings	3 points		
10.	Patent	4 points		

Source: Authors based on University of Twente and Delft University of Technology annual financial reports.

Currently, the state basic funding in the Netherlands is allocated to universities through the following formula: The funding model teaching (about one-third of funding) is 65 percent based on weighted number of students and graduates (with discipline-specific weights), 28 percent basic budget for education provision (historical funding), and 7 percent based on performance contracts (related to quality of teaching). The funding model for research (two-thirds of funding) is 15 percent based on weighted number of graduates, 20 percent based on the number of PhD degrees conferred (about €90,000 per PhD), 5 percent for research schools (multi-university collaboration), and 60 percent basic/strategic budget for research provision (historical funding). The University of Twente (UT) provides basic teaching budgets to modules of bachelor study programs (15 ECTS workload each) with a higher price for engineering than social sciences, and only partially related to the number of students (most of the module funding is a fixed price). Master's programs are funded on the basis of completed study credits (at different prices for engineering and social sciences). Large strategic budgets are given to large multidisciplinary research institutes, which allocate funds to academic units on the basis of performance negotiations. Some institutes/faculties have competitive funds for appointing PhD candidates and postdocs on promising innovative research projects. PhD premiums (number of PhDs) from the government are directly transferred to the units. The units can also obtain small premiums per full-time-equivalent researcher funded from competitive EU resources. The Delft University of Technology (TUD), in contrast, allocates most of its teaching funds on the basis of degrees awarded, with minor premiums per new entering student and credits earned. Research funding is largely driven by numbers of publications and external research contracts. PhD premiums are low.

The idea of integrating system-level, performance-based funding into internal funding models is simple. Funds should flow to units where performance is manifest: performing units should receive more income than lesser performing institutions, which provides performers with a competitive edge and stimulates less performing institutions to improve (Herbst 2007). However, notwithstanding this simplicity, designing an effective model for HEI internal performance-based funding has several aspects that add complexity, including the definition of good performance, selection of performance indicators, weighting of indicators, number of indicators, and measurement methodology (see for example, Ziegele, Tumbas, and Sedlak 2010).

When responding to state performance-based funding, institutions might want to adjust some of the performance indicators in a way that better serves these institutions' own strategic approach, institutional culture or disciplines, or other specific institutional features. For instance, a sophisticated and multidimensional bibliographic performance indicator in the system-level model can be simplified for the purposes of the internal funding model to cover only a few broader types of publications to be rewarded (as shown in the UTA example).

Similarly, a system-level model rewarding the acquired competitive research funding from specific sources (such as national competitive research grants or EU funding) can be broadened in the internal model to include all sources of third-party revenue, especially if the research income structure of the internal units is diverse. In this way, the internal models can support the institution internal diversity and flexibility, and at the same time promote incentives that are in line with the national funding model. These more categorical performance indicators also allow the possibility for the units to define to a certain extent their own rewards on lower levels of resource allocation (that is, at the level of departments operating under the faculties, or study programs/research units operating under the departments). As a rule, allocation models at lower organizational levels tend to require greater levels of stability because they are more vulnerable to annual fluctuations in expenditures, other revenues, and measured performance (though these could be leveled out, for example, with a multiannual budgeting approach).

Weighting of indicators is another important aspect to be considered, because the institutional objectives behind the appropriation of funds should be manifest in the indicators and their weighting (Ziegele 2008). Compared to external state funding, institutions often adjust the weighting of indicators in their internal funding formula for various reasons. For example, institutions might want to incentivize some specific activity over another (for example, awarded doctoral degrees might have lesser weight because most of the faculties already perform well in this respect, but at the same time acquiring competitive research funding is rewarded with a higher weight because most of the faculties are doing more poorly in that respect). Weighting might also be geared toward supporting implementation of the institutional strategy. For instance, research-intensive institutions might put more weight on research-driven performance indicators than indicators rewarding educational activities (for example, awarded Bachelor's degrees or study credit points). Sometimes cost-oriented weighting is also needed to accommodate differences across the fields, particularly between more expensive (sciences, arts) and less expensive (social sciences, humanities) fields and disciplines (Ziegele, Tumbas, and Sedlak 2010; Hicks 2012).

Internal stakeholders of an institution should be aware of the type and number of indicators to be incorporated into the funding formula. The number of indicators used in a formula model determines the level of the model's transparency and the presumed effects of its incentives. When a model has been recently developed, there is often a tendency toward greater complexity involving numerous indicators in an attempt to take the interests of various units into consideration. The problem with this approach is that the financial effects of individual indicators become fragmented or even conflicting. The number of indicators therefore should be balanced between the effect of incentives/transparency and the reflection of heterogeneous performance and objectives (Ziegele 2008). Compared to the lump-sum allocations, performance-based funding formulas can incentivize disintegration of teaching and research activities by offering distinct funding streams for teaching and research activities. Even though performance rewards are not usually earmarked to support the performance they were appropriated for, they still can guide institutional and unit-level thinking in that direction. Therefore, institutions should acknowledge the need to balance the number and weighting performance indicators according to institutional strategies, and they should preferably use an integrated funding model for their internal units instead of two distinctive funding models for teaching and research. Finally, based on international best practices, institutions need to pay attention to how they handle instabilities related to measuring annual performance. Often multiyear averages (for example, three-year averages) are used to overcome annual fluctuations in measured performance (Ziegele, Tumbas, and Sedlak 2010).

One of the important issues surrounding performance-based funding is the object/level of allocation. Should performance-based funding be allocated as grants to incentivize units such as faculties, schools, or departments, or should allocations and incentives be passed on to individuals in the form of salary bonuses? **In several countries, performance-based funding at HEIs is allocated to units, but at the same time staff salary schemes include a wider performance component/bonus, which is in line with the incentives set by the allocation model.** The same applies, for instance, to HEIs in German states, where the 2002 framework legislation initiated the introduction of performance components in salary schemes (leaving, however, significant scope to individual states and partially also institutions to define performance in accordance with state-level and institutional objectives and to design specific aspects of the model). Also in the Netherlands, the performance bonuses that could incidentally be awarded to excellently performing staff are widely used by some universities, faculties, or departments that are able attract additional resources, whereas in other departments/universities, the use of salary bonuses is limited.

Unit-level allocations instead of salary bonuses can be supported with several arguments. For instance, performance (for example, increased level of competitive research funding) is often directly and indirectly an outcome of a series of actions of multiple individuals. Therefore, it would not be fair to reward only one individual or a group of individuals who are primarily responsible for the realization of something that can be considered, in most cases, organizational performance. Second, units such as faculties and departments are more than just organizational platforms of academic work. They coordinate and direct the work of individuals, provide guidance, organize administrative support, facilities, and equipment, and on so on, thereby justifying their mediating role between the outputs and rewards.

Moreover, findings from several studies suggest that financial incentives may create a "crowding out" effect where extrinsic rewards (such as salary bonuses) under certain conditions ''crowd out'' the intrinsic motivation (genuine, noninstrumental interest toward academic work) (for example, Frey 1997; Frey and Jegen 2001; Andersen and Pallesen 2008). This could imply that financial rewarding does not necessarily improve the performance of employees who are motivated by the task itself. However, under certain conditions, the introduction of external rewards could also lead to ''crowding in," that is, enhancing the intrinsic motivation. It has been suggested that crowding out occurs when rewards are perceived as "control," but crowding in is possible when the rewards are seen as "supportive" (cf. Jacobsen and Andersen 2014). Even though the research evidence on the impact of salary rewards on performance is still in many respects inconclusive, designing schemes where state performance-based funding would be channeled directly to high-performing individuals might contain motivational risks in addition to the unfairness aspects discussed above. Rewarding those dimensions of academic work that are not "extra" but can be considered a normal part of the work, are particularly more likely to trigger crowding-out effects. These could include paying rewards per written publication, and piece rate rewards per student supervised or number of classes taught. Individualized rewards are also built on medium- to long-term contingencies. The staff is expected to become more experienced and thus to perform better, but even under stagnant performance the bonus cannot be easily withdrawn, since this would likely have a demotivating impact. Individual salaries can therefore only stagnate or increase, which creates challenges for financial planning and resource building.

Finding the right balance is the key to designing appropriate schemes for allocating performance-based funding. When funding is channeled to the unit level to support research and teaching, monetary incentives can simultaneously facilitate development in those areas, and thus correspond better with intrinsic motives

(Ziegele 2008). Moreover, when internal allocation of performance-based funding is shared with units and individuals, the requirement for fairness can also be better addressed. Finally, performance-based funding assumes that it can fluctuate with performance levels. Thus, applying performance-based bonuses/salaries at the individual level should be handled with care and as a complementary element of salary systems when appropriate. It needs to be designed and implemented carefully to minimize the potential crowding-out effects. For instance, team-oriented incentives or a model that does not reward work or performance at a detailed level, could have positive performance effects. However, performance bonuses are likely to be problematic when they are used like an individual formula funding and promote disintegration of teaching and research.

b) Financial Autonomy and Sustainability

Institutional Financial Steering Capacity

International trends show that financial autonomy of institutions can be strengthened in many ways, including through promoting internal freedom of institutions to mobilize and manage resources in a flexible manner. Mobilization of additional income through multiple new or existing funding sources (for example, student contributions, philanthropy, endowment funds, commercial activities, different types of service-related income) again contributes to balancing the income structure of the institution, thereby increasing its financial sustainability. Therefore, autonomy can be considered as an important aspect for the sustainable financial development of institutions because it helps to reduce the resource dependency of institutions on any single source of financing, including state funding (Estermann and Bennetot Pruvot 2011).

Resource diversification makes it possible for institutions to plan their own future without undue dependence on single funding sources (Taylor 2006). Although not being a sine qua non condition, resource diversification often leads to better possibilities for building and maintaining financial reserves, that is, central funds, which are not allocated as part of the operating budget of units, but are held at the institutional level. Central funds are often needed for the effective promotion of institutional strategy and profile, such as supporting and directing new strategic initiatives, institution-wide development activities, overall strategic development of the institution and subsidizing non-revenue-generating activities critical to HEI missions. Central funds can be essential for incentivizing collaboration across units, but they can equally well be used as financial buffers ("rainy day funds") to fill in revenue shortfalls during temporary difficulties in acquiring revenue or unexpected expenditure demands. As such, central funds are an important prerequisite for financial autonomy of HEIs as a whole. The need to make transformative changes requires often significant investments for which only the center, not individual units, can provide adequate funds. Without central funds, the opportunities for HEI leadership to strategically manage the institution are restricted (Ziegele 2008; Education Advisory Board 2014).

In principle, international examples show that there are effective strategies (more revenue, less costs) for the accumulation of central funds. On the side of increasing the revenues, strategies related to student contributions could include, for example, changing a mix of enrolments by increasing the percentage of students paying higher fees (often international students), increasing tuition fees for existing students, or increasing enrolments while maintaining current tuition fee levels (Hauptman and Nolan 2011). Alternatively, an institution could, for example, incentivize the units to be more active in seeking competitive research revenues by offering seed funding for promising research areas and groups, co-funding or match funding for already established

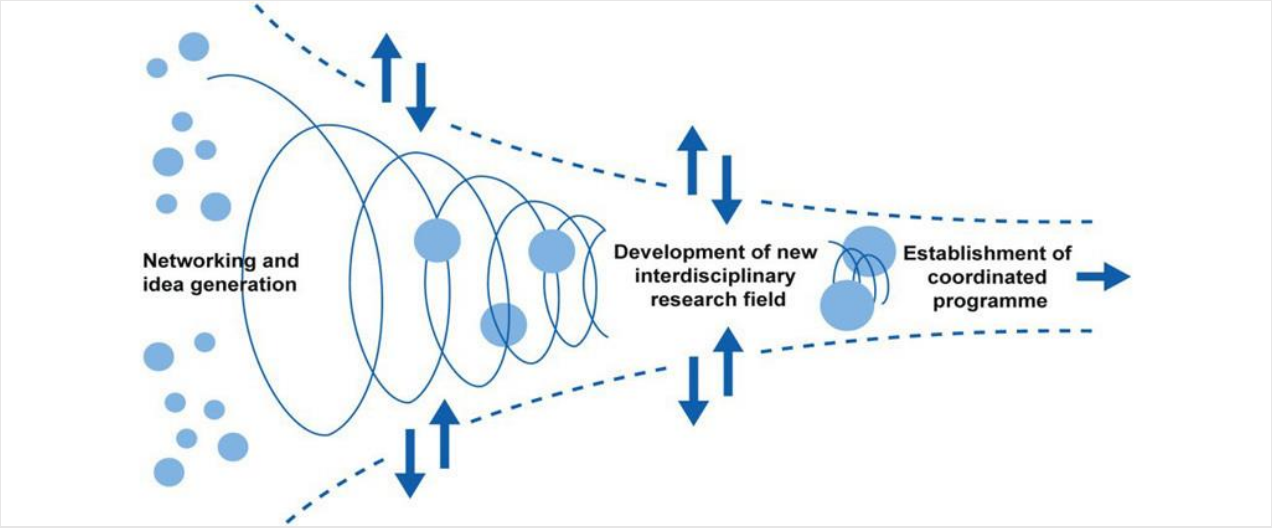
research projects, developing business activities by investing in technology transfer offices, developing institutional capacity in fundraising by hiring fundraising staff, and so on. Seed funding often creates a kind of upward loop: provision of start-up funding for new initiatives creates additional revenues from new activities, which further contributes to the possibility of offering additional seed funding previously not available. These strategies often benefit from the fact that the central administration is able to capture at least a share of the revenues either by deducting a certain percentage of the institutional revenues or taxing the revenue collected by units.

Example 3, below, shows how the Technical University (RWTH) Aachen in Germany uses an "Exploratory Research Space" (ERS) scheme as a strategic internal funding instrument to fund new research initiatives. ERS, an in-house funding mechanism, promotes and funds interdisciplinary research projects and provides a platform for scientists who join forces to develop innovative, challenging research ideas involving a higher risk than conventional ventures and who seek to realize their ideas in "seed fund" or "boost fund" projects.[8] As such, ERS offers an example of a competitive process with a multiphase approach in evaluating the promising research initiatives to be funded by the university. With the "pathfinder projects" researchers get some funding (seed funding) for innovative new ideas. In the second phase, the seed fund projects are developed into more comprehensive, interdisciplinary project proposals, which are funded by the RWTH Aachen's "boost fund." These proposals create the foundation for the success of the "project houses," whose activities serve to primarily build networks over the boundaries of involved disciplines. In the meantime, efforts are made to develop the project houses further into "research centers," which should contribute to sharpening RWTH Aachen's profile and visibility, and which eventually become financially self-sufficient through external funding (RWTH Aachen n.d.).

[8] For more information on ERS, see http://www.rwth-aachen.de/cms/root/Forschung/Angebote-fuer-Forschende/~ohy/ERS-Angebote/?lidx=1.

Example 3. RWTH Aachen's mechanism to support and fund creative research initiatives

Figure 4. Exploratory Research Space at the RWTH Aachen



Source: RWTH Aachen, http://www.rwth-aachen.de/cms/root/Forschung/Angebote-fuer-Forschende/ERS-Angebote/~vuc/Projektentwicklung/?lidx=1.

Institutional leadership can also introduce budget reductions and cost-savings measures aimed at recapturing funds from units and to be directed to the central funds. Examples of these measures include one-time across-the-board cut from budgets, continuous decremental/decreasing budgeting (cutting a certain percent of each unit's budget every year, for example, 1 percent), temporary budget freezes (including recruitment freezes), targeted reductions, and restructuring. As a cost-saving measure, freezes are often an interim step institutional leadership have at their disposal while still determining possible long-range measures. Across-the-board cuts and decremental/decreasing budgeting are technically the simplest and most expedient way of recapturing funds, since they provide flexibility to units on where the cuts can be made. At the same time, they are also equitable, since all units are treated alike. Declaration of a budget freeze is a softer way to recapture funds. It can also be an effective way to get the attention of the staff to the financial situation of an institution in the case of financial difficulties.

Targeted reductions rest on a premise that some activities, programs, or units are central to institutional purposes, whereas others are desirable but less important from the perspective of institutional strategy. Institutional restructuring can include a large scale organizational restructuring (unit mergers, staff reductions), but it can also include establishing new processes and procedures aimed at improvements in efficiency (for example, introducing a centralized purchasing policy, outsourcing some of the services). Since recapturing funds through cost savings is likely to cause more organizational upset, the least drastic measures should always be used first whenever possible. When savings cannot be avoided, voluntary cutback measures developed by staff should precede the involuntary ones. However, when facing serious difficulties, institutions should focus on more sustainable strategies with a high financial impact such as controlling the allocation of vacant positions or

imposing a tax on tuition to direct a share of funding to central discretionary budgets (Barr and McClellan 2011; Education Advisory Board 2014).

The decision process on how central funds are allocated is very important, since their allocation is mainly based on discretionary decisions. These can be based either on negotiation between the institutional leadership and the units, competitive bids (for example, strategic funding for new research initiatives) from individuals and units, or on using formulaic approaches to support some specific activity (for example, doctoral education). Often strategic funding is allocated within the context of performance agreements (for details see "2.2 d) Balance and Context"). Ensuring transparency is very important for staff morale, especially if central funds are to be accumulated primarily with cutbacks and cost savings. Therefore, good internal funding models can make clear to all how the decisions are made and why, who has decided, and based on which criteria.

Borrowing is one option for HEIs to acquire financial resources. The main reason for borrowing is that it permits institutions "to build now and pay later" (Massy 1996, 122). In principle, two types of borrowing can be distinguished: (1) Borrowing for projects or purposes, which will generate an incremental income stream at least equal to debt service (that is, the resources that are required to cover the repayment of loan interest and loan principal for a particular time period). One example on this could be loans taken for erecting new innovative multidisciplinary research facilities that will also be used for conducting sponsored research, which again is expected to generate new income or savings (for example, through energy savings), which can be used directly for covering the debt service. (2) Borrowing for purposes that do not directly result in additions to institution's revenue, such as general-purpose buildings, extension of library capacity, or the like. These purposes may further indirectly support HEI's mission and thus its revenue-generating potential over time. However, the link between these revenues and the costs accrued from debt service is not explicit (Massy 1996). Both kinds of borrowing can further the missions of institutions by leveraging their available assets, but from the perspective of financial risks, the first type of borrowing is significantly less risky than the second one.

Based on an EUA study (2011) on the autonomy of HEIs, only in a minority (7 out of 28) of European systems, HEIs were unable to borrow on the financial markets due to restrictions set by the state, but in only six systems were HEIs able to do so without restrictions (Estermann, Nokkala, and Steinel 2011). **Despite the relatively high number of systems in which HEIs are allowed to borrow (with or without restrictions), there seems to be no information available about the frequency (that is, how many institutions borrow), the scale (that is, how much is being borrowed), or the nature of the borrowing (that is, for what purposes and from where).** This is a surprising finding that might lead to a conclusion that either the European HEIs do not use their freedom to borrow or that their borrowing does not constitute a significant source of financial activity. Either way, this might imply that the risks associated with borrowing are considered to be too high compared to the expected benefits. In its recent statement, EUA appears to have taken a position against borrowing, at least in so far as it is considered an alternative financing mechanism replacing nonrepayable public funding. This EUA position is backed by arguments that address the sustainability aspects, particularly: "loan schemes are not helping to address the investment gap in university education and research as they just shift the problem of scarce resources to the future and create debt that harms the financial sustainability of non-profit institutions like universities" (EUA 2016, 3).[9] Although borrowing might be an option when facing, for instance, temporary

[9] http://www.eua.be/Libraries/publications-homepage-list/one-year-of-efsi-whats-in-it-for-universities-an-eua-review

liquidity challenges, institutions in general must also bear with their own assets the full risks associated with the loans. In the case of borrowing, it is crucial to develop a detailed and careful plan on how to recover the cost of repayments through additional income or savings.

Unit-level Financial Autonomy

Unit-level autonomy is an important prerequisite for the sustainable strategic development of units. The current international trend is to favor bigger unit sizes, with a high level of operative and financial autonomy (for example, Lopez 2006; Taylor 2006; Lepori, Usher, and Montauti 2013). It is believed that sufficient size of the units allows them to develop their own specific objectives under the broader framework of an institutional strategy, and that large units are better able to make use of financial flexibility. Like on the system level, an increased level of autonomy of units is often accompanied by a higher level of intra-institutional accountability (Lopez 2006).

In general, centralization and decentralization of financial authority is one of the most important decisions HEIs face, and it often has direct implications related to the locus of control in the institution. Therefore, adequate balancing of the top-down and bottom-up approaches is an important requirement for internal funding models.

In centralized funding models, resources are allocated and the use of resources is authorized by the central institutional management. Technically speaking, an institution that has only one budget under which all funds are pooled at the central level, can be considered as a strongly centralized allocation model. Centralized resource allocation locates all decisions on a budget at the central level, and stringent controls are typically in place to assure that the management of the budget throughout the fiscal year is congruent with the budget approved. Benefits of the centralized model are related to the efficiency of control and coordination, and therefore it is often used during times of financial difficulties—a centralized budget lends itself to midyear adjustments either as a result of unforeseen challenges or emerging opportunities. Moreover, centralized allocations may be associated with longer-term strategic goal setting, because resources can be more easily deployed to invest in potential growth opportunities. Resource-intensive exercises, such as establishing new units, are more difficult to implement in a decentralized model. Cross-subsidization of less viable activities is also easier in a centralized model when the activities are perceived to be important for the institutional strategy. Centralized resource allocation, however, is naturally associated with lower levels of departmental autonomy. This can lead to a lower unit level responsiveness to strategic initiatives, since centralization offers neither autonomy nor much bottom-up incentives to control costs. This might have a further demoralizing effect on the unit-level leadership and staff who are responsible for organizing teaching and research activities, because budget decisions are not done by those “product owners” (Jarzabkovski 2002; Barr and McClellan 2011).

In contrast, in a decentralized resource allocation model, units such as faculties or departments have control over their own budgets, accompanied with a responsibility for their own strategic direction, income-generation, and financial viability. The main rationale behind decentralization and higher unit-level autonomy is that in such a model, units are considered to be more responsive to strategic initiatives within their disciplines and to generate, deploy, and allocate their own income streams in a way that supports their cost-effective operation. Similarly, when units are held responsible for many or all of their costs, like office space, equipment,

and support staff, they become more economical about it. In particular, the unit's ability to reallocate expenditures and decide on how set targets are achieved, the possibility to carry forward unspent funds (or part of them), the ability to build financial reserves on the decentralized level, and the possibility to decide on the required volume of support services, have been considered as the major strengths of the model (Jongbloed and others 2000). As such, decentralization is believed to support a higher level of responsibility (due to budget "ownership"), transparency, and entrepreneurial thinking at the unit level. At the same time, decentralization has been criticized mainly for the difficulties in its practical implementation, possible duplication of administrative and support services (for example, requirements for developed information management systems, financial analysts and other support staff), coordination challenges among decentralized units, and difficulties in aligning unit objectives to the institutional strategy. In any case, the prevailing international opinion seems to be that the benefits of decentralization in most cases outweigh its projected disadvantages (see, for example, Jongbloed and others 2000; Lopez 2006).

One of the most frequently mentioned examples of financial decentralization is known as responsibility center budgeting (RCB) (also known as revenue-center budgeting and responsibility center management) (see, for example, Barr and McClellan 2011; Education Advisory Board 2014). The strengths of RCB are most suited to large, complex, research-intensive universities, because it requires units that have the possibility of maintaining a sufficient revenue base with multiple income streams. RCB models often give a college, faculty, or department control over the income it generates (including setting the level of fees, deciding on enrolment, allocating the global revenue base available to it) and the expenses it incurs. Decisions about optimal balances between costs and revenue are made by the units, which also set their priorities and link plans and budgets. RCB has a highly decentralizing effect because it locates many decisions involving the generation and management of resources to the unit level. However, RCB as a concrete budgeting practice has many variants. For instance, some HEIs attribute all expenses but only some income, while others deploy RCB in some divisions but not in others (Lang 1999; Barr and McClellan 2011).

Rather than using "pure" centralized and decentralized approaches, most institutions use hybrid models by mixing elements from both approaches to find an appropriate balance for their internal budgeting structure. Size of the institution, organizational structure, history, culture, and other factors often play an important role in finding this balance.

c) Transparency and Feasibility

Aspects Related to Transparency and Fairness in Internal Allocations

One of the most common objectives of internal funding models is to increase transparency. Transparency continues to be one of the primary concerns for the financial administration of an institution, which often struggles to communicate the reality of budget constraints and the urgency of change to the academic community (Education Advisory Board 2013). Transparency is particularly important, because it fosters the sense of fairness and, equally important, trust. Again, the level of trust often has clear implications for the morale and motivation of the staff in working toward common institutional goals.

Transparency requires that the institutional funding model is understandable in the sense that it is clear why one unit receives more or less funding than others. For instance, funding formulas legitimize allocations, since

they make the underlying allocation criteria measurable and thus transparent. Formulas automate the connection between the objectives (measures of the formula) and the appropriation of funds in a way that removes the discretionary room for nontransparent maneuvering, such as bargaining or lobbying influence. With formulas, which are relatively simple and include a restricted number of indicators, it is clear who is receiving how much money and for what reason, leading to high levels of trust and the possibility of more conflict-free collaboration. Some institutions support this by internal reporting to their units providing information about financial mechanisms and their effects. Well-designed formulas should also consider the cost and other differences among disciplinary fields to also ensure a sense of fairness (Ziegele 2008). An important prerequisite is, however, that various internal stakeholders are familiar with the formula and are capable of acting on it.

Another way to increase transparency is the use of written performance/target agreements that are accessible to the public. Target agreements should demonstrate a structure—a "form" or framework that can be developed for this purpose (by the central administration), which prescribes the wording of agreements, determining a standard formal framework in which individual contents can be entered as relevant by the recipients of funding (Ziegele 2008).

Transparency and fairness also need to be considered when deciding on the overhead to be attributed to the central administration to finance administrative services. Although the institutional administration and support services do not directly generate revenue for the institution, they provide necessary services that benefit the entire institution. Spreading the overhead costs associated with general administration equitably among revenue-generating units is challenging from the perspective of transparency and fairness, because it is often difficult to measure which units benefit most from the services. Standard mechanisms used to allocate the cost of general administration to units are overhead charges, which can be categorized as revenue taxes, expense taxes, other taxes, and cost pools. Charging units a tax on the revenue they generate (for example, research grants, tuition fees, internal grant allocation) is probably the most common approach applied everywhere. An advantage of a revenue tax is that it connects the revenue generation to the increased expenses (for example, research projects increase the need for more and better library services and legal advice), and in a way supports the equitable redistribution (those who have more, pay more). Cost pools are groupings of individual costs by services (for example, maintenance, ICT support), which are then used to make cost allocations (overhead) to units according to the proportion they are using the services. Central taxes are easier to administer than cost pools; however, they provide a lower level of transparency (Education Advisory Board 2013, 2014). Various universities in different higher education systems show a great diversity in internal "taxing" or "overhead levy" practices. For instance, at the University of Twente in the Netherlands, faculties can set their own rules, but in most cases charge a certain fixed amount of "overhead levy" per full-time-equivalent staff funded by external resources.

The treatment of unit-level surpluses is an important issue that is crossing the boundaries of institution- and unit-level autonomy and interests. Standard alternatives related to the treatment of unit surpluses are that units either can keep or cannot keep a surplus. However, "gain sharing" is a common way through which institutions can encourage the units to seek out savings and at the same time capture some of these funds to a central institutional fund. Under a typical gain-sharing plan, units can carry forward a large portion of their surplus into the next budget year, but not the whole surplus. Setting the carry-forward share too low recaptures more resources to the central funds, but is also likely to lead to inefficiencies by encouraging wasteful end-of-year spending, to limit the possibilities to save for unit-level long-term goals, and to create disincentives for

entrepreneurial behavior and additional revenue generation in the future. Setting the carry-forward share too high encourages unit-level savings, but produces fewer resources for the central fund. Therefore, finding a right balance between unit-level and institutional interests in this matter is also important. In U.S. institutions, for instance, a typical share of surplus that units carry forward reportedly ranges from 50 to 80 percent (Education Advisory Board 2014).

Another important aspect of increasing the legitimization of a funding model is to offer effective channels for communication and participation, which has also become a trend in many systems, not least because of the possibilities offered by digitalization and advances in using ICT tools. In particular, effective communication with internal stakeholders is crucial when initiating a process that is leading the development of a new or revised funding model for the institution. During this process, all established channels of communication within the HEI should be used to form a coherent campaign. For instance, the process and the results could be reported in a magazine or news bulletin or key documents posted on the intranet. Interactive workshops and webinars could be organized, and surveys and polling could be used to detect the variety of opinions. Developing a new model or revising the existing one should be organized in a participatory way, since whoever has an opportunity to participate in developing the model is more likely to identify with it (Ziegele 2008). For that reason, it is desirable to extend active participation in any change process beyond the project or working groups, who are usually in charge of developing a new model. The involvement of unit-level leadership (deans, heads, council/board members) is crucial, but opportunities for regular staff involvement should be offered as well. However, involving too many people in designing a model can also present challenges, thereby requiring effective coordination and division of labor (for example, participation of different groups and people in specifically demarcated subareas). In any case, promoting participation should not be a formality, but a necessity. Asking for concrete suggestions, for example, can sometimes lead to new and unexpected insights, which can have an impact on the development of a new model. Even if most of the specific ideas presented cannot be implemented, it is important that people have a genuine opportunity to be heard and are offered a chance to present their views (Ziegele 2008; Barr and McClellan 2011).

Aspects related to Administrative Efficiency and Availability/Reliability of Performance Data

The development and administration of funding models can be costly and time-consuming, and the development, collection, and maintenance of required data could demand intensive institution-wide efforts. All funding models come at administrative cost, but there are differences in how much and why resources are needed for the implementation of these models. For example, the development and administration of performance-based funding schemes may require substantial resources, especially when the measurement requires labor-intensive design of indicators, data collection and cleaning, validation efforts, establishing data warehouses, or time-consuming indicator calculations (cf. Hicks 2012). Sometimes there can also be conflicts between the use of available standardized measurement data versus the data that is customized to serve the needs of an institution. For instance, existing bibliometric approaches may not be able to treat different faculties in a fair way, and therefore institution-specific indicators need to be developed. An institution then needs to reserve resources for constructing its own publication indicator to create allocations that are more balanced. Similarly, introducing internal target agreements might require a lot of planning, preparation, and assessment in order to have a more customized approach for the specific needs of specialized units (for example, research

institutes). However, formula funding has the potential to reduce the cost of negotiations by creating automatic allocations.

Similarly, revenue diversification strategies, although beneficial for institutions, will incur several types of transaction costs. For instance, it has been proposed that the more revenue sources there are, the more challenging becomes the coordination of resource use within and among organizational units. Moreover, while the intensive diversification of revenue sources can be used to address the potential volatility challenges, these processes can also create additional administrative cost, which in turn may necessitate the hiring of more administrative support (Froelich 1999; Morris and Rip 2006; Raudla and others 2015). Different sources of third-party funding are often related to different modes of accounting and rules regarding the use of earmarked funding, which could make internal budgeting complicated. An important issue that is likely to emerge in the context of project-based funding of academic research is how to cover these transaction costs and on whom they should fall (units vs. central administration) (Raudla and others 2015). In decentralized allocation models like RCB, it is often the unit that is primarily responsible for covering the increase in administrative costs, but in more centralized models, they often fall on the central administration. However, even though through increased resource diversification institutions become dependent on multiple stakeholders, HEIs can shift the balance among the stakeholders according to the changes in the dynamics of "the stakeholder market" to optimize revenue diversification.

In some countries where institutions are applying a version of RCB at the faculty level, there has been a clear trend to centralize the administrative services to be treated as an independent budgetary unit (for example, Finland, the Netherlands, plans in Norway). These university-wide shared services take care of the financial administration, study administration, research support services, and HR services of the units, but in operational and budgetary terms they are external to units. There can be different practices in charging the administrative overhead cost depending on the institution, but one measure used during the transition phase is to cut the unit budgets and transfer these cuts to the budget of shared administrative services. Although shared services create several types of coordination challenges (as is often typical for matrix structures), they also create flexibility in allocating administrative staff from one unit to another based on demand for their services. Units are often charged with revenue-tax type overheads (as a part of the full-cost model), thereby also linking the cost of administrative services and the revenue streams from research grants and services incurring these costs.

d) Balance and Context

Finding an Appropriate Balance among Three Pillars

According to international best practices, the overall architecture of the funding model should also be balanced in light of functions of the three-pillar model, that is, between "basic funding" offering stability (Pillar 1), performance-based funding fostering increased/improved results and greater productivity (Pillar 2), and profile/innovation-oriented funding promoting change (Pillar 3) (Ziegele 2008, 2013). What is considered a legitimate balance is, of course, related to the institutional profile, type, and strategy of an institution.

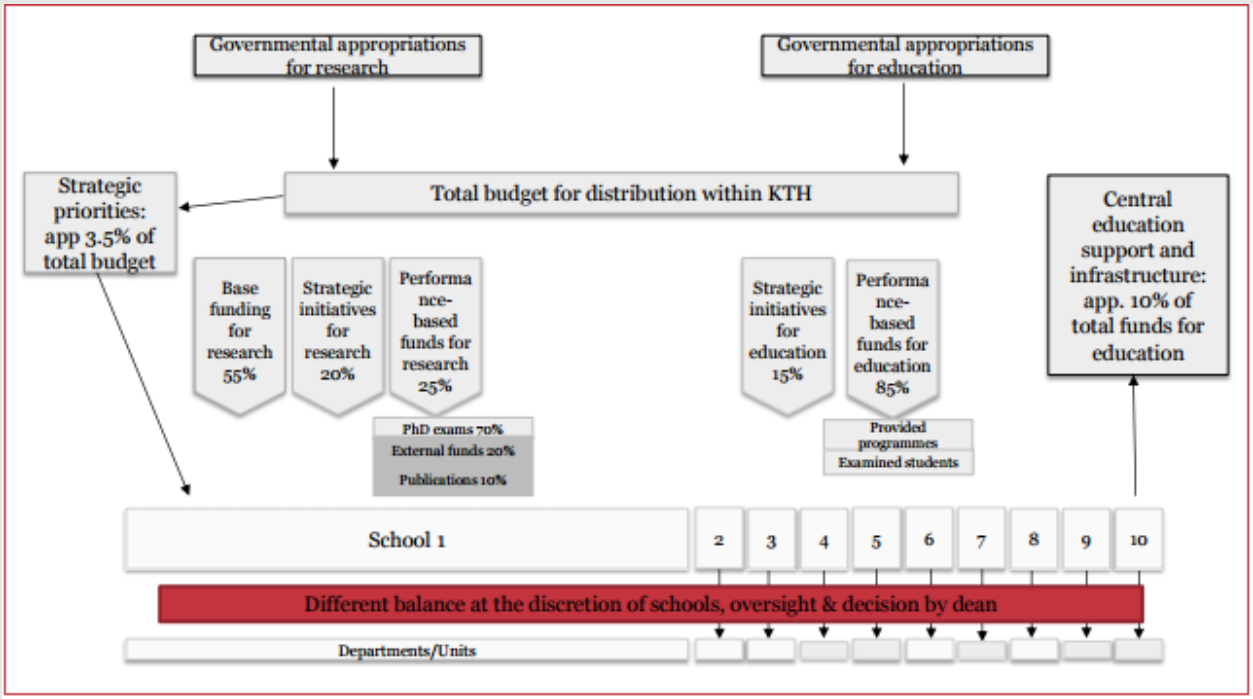
For instance, research-intensive universities often choose excellence in research as one of their primary strategic objectives. This means that the institution should be able to offer a sufficient level of core funding (allocated ex ante via incremental or formula funding, with or without using target agreements), in order to support the

relatively stable planning horizon for the basic, non-project-funding-related research. At the same time, stable basic funding ensures that institutions possess the required capacity to be engaged in seeking competitive funding (Pillar 1). To increase or maintain the level of research productivity, institutions may want to create financial incentives that reward units for their success in research. These rewards should be in addition to Pillar 1 funding, meaning that the possible lack of performance-based funding does not undermine the possibilities or capacity provided by the basic funding, but serves as add-on funding to be allocated (ex post) for those who have been productive in their research activities (Pillar 2). For research universities, the capability to attract funding based on competition and research excellence is a sign of excellence. Therefore, research institutions often want to support those projects, groups, or individual researchers who possess either the potential or demonstrated merits with seed funding (allocated ex ante via target agreements or by competitive bids from central funds) that can serve as a stepping stone for acquiring competitive funding, that is, research grants from national research funders (science councils, academies, private foundations, and so forth), international research funders (for example, the EU), or from a range of commercial research funders (Pillar 3). In that case, balance among the three pillars would therefore mean that the university is able to develop its current and future activities through three pillars in a way that supports (based on achieved results geared toward research excellence) its mission, strategy, and profile as a research-intensive university.

KTH Royal Institute of Technology in Stockholm, Sweden (KTH) is an example of a three-pillar funding model implemented in a research-intensive university (see Example 4). Almost two-thirds of the KTH revenue budget relates to research. KTH is organized into 10 schools under which departments, centers, study programs, and other units operate. Funding is allocated from the central level to schools, which then distribute the funding internally to the departments and other units as they see fit. Funding allocated to schools for research is composed of sizable base funding (approximately half of the funding for research) to provide a sufficient level of stability. Approximately 25 percent of the funding is performance-driven based on doctoral exams, and amounts of acquired external funding and produced publications, thereby corresponding to Pillar 2 funding. About 20 percent is allocated as strategic initiatives (Pillar 3) in accordance with KTH strategies. For instance, during 2016, priority was given to research infrastructure, faculty development, and interdisciplinary initiatives, preferably among the schools. Moreover, KTH has also invested in establishing a tenure track system that is also financed with strategic funding. For education, unlike for research, there is no clearly distinguishable Pillar 1 type of funding. In contrast, Pillar 2 funding (performance-based funds) for education covers as much as 85 percent of the allocation based on, for example, number of examined students. In addition to the streams for research and teaching, smaller amounts of Pillar 3 type funding (3 to 5 percent of the total budget) are kept at the central level. This funding can be allocated, for example, for co-financing EU projects, and for covering expenditures for needs that emerge during the budget year. The KTH model also builds on performance contracts (also called target agreements) among the schools and the rector. These contracts are negotiated and agreed upon annually, and significant differences in planned or actualized performance will have a certain impact on school budget allocations (Melin and others 2016).

Example 4. Three-pillar internal funding model in KTH Royal Institute of Technology in Stockholm

Figure 5. KTH three-pillar funding model



Source: Melin and others 2016, 7–11.

Possible imbalances in the model result from either over- or underemphasizing the role of any of the three pillars. The imbalance among pillars can be caused by weak design of the internal funding model, imbalances in the sources of institutional revenues, or both. For instance, a high reliance on project-based funding (Pillar 3 external funding) can lead to volatility of funding, resulting in fluctuating revenues from year to year (or even within one year). These revenue imbalances often add constraints in balancing the internal allocation model. For example, Pillar 3 internal funding (strategic central funds) can no longer be used as seed funding for new initiatives because it is allocated as "temporary survival funds" to compensate deficiencies that should under normal conditions have been taken care of with Pillar 1 funding (see Raudla and others 2015).

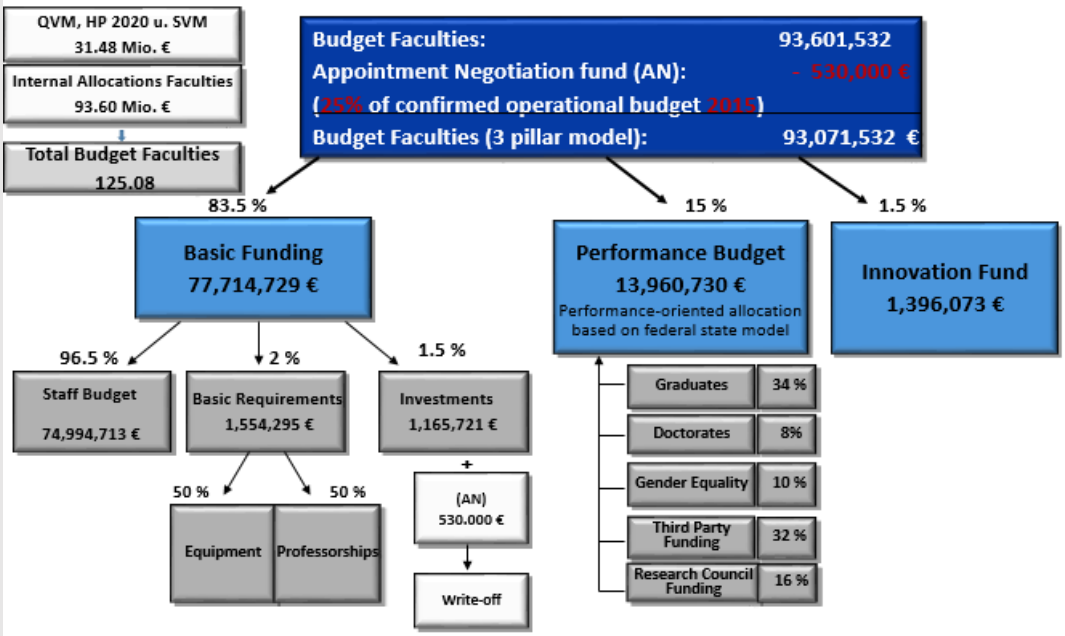
Internal target agreements are often used in allocating Pillar 1 and Pillar 3 funding, and sometimes in allocating Pillar 2 funding, to balance the model architecture (see Example 5). In Pillar 1 funding, target agreements are effective in communicating the institutional objectives to the unit level, which then needs to reflect its whole spectrum of activities in terms of research and teaching as an exchange for the basic allocation (allocated either in incremental or formulaic form). Allocations from central funds can be made through target agreements (Pillar 3 funding). Often in these cases the appropriation of funds is based on an application procedure. HEI management invites tenders for a pool of a certain volume; units can apply for funding, for example, for innovative research projects, new educational initiatives, or third mission activities. The objectives of these projects could be set out in target agreements; that is, target agreements have a selective content (they relate to a small number of priority fields), they are geared toward innovation and structural development, and are

negotiated on a voluntary basis (since each unit is free to choose whether it wants to compete for funds) (Ziegele 2008). Institutions usually decide to take one of the two options—either a comprehensive target agreement justifying lump-sum funding under Pillar 1, or project-based, focused funding under Pillar 3.

Example 5. Target agreements at the University of Duisburg-Essen

- The University of Duisburg-Essen (UDE) is a public university located in two cities, Duisburg and Essen, in the German state of North Rhine-Westphalia (NRW). It was founded in 1654 and reestablished on 1 January 2003 as a merger of two universities. With 12 departments and close to 40,000 students, it is among the 10 largest German universities.
- The strategic development of the institution is laid down in the UDE strategic plan, which is based on the higher education development plan of the state of NRW. UDE signs Target Agreements with NRW's Ministry of Innovation, Science and Research which, among other things, cover the number of study places foreseen, although the allocation is historical.
- University-internally, UDE also works with Target Agreements. Since 2005, the Rectorate has signed Target Agreements with all faculties and central bodies of the institution covering a three-year period. The overarching idea is that the strategic plans of faculties and other units should be attuned to the overall strategic directions of the institution.
- Major aspects covered by the agreements are core tasks related to teaching and learning, research initiatives, measures related to strengthening the profile of UDE, and specific activities related to the Target Agreements between UDE and the state. Other aspects covered relate to gender and quality assurance. After conclusion of the three-year period, the respective units report back on the achievement of the agreed targets.
- The process is further supported through evaluations of all faculties and central units, which take place every six years.
- The amount of funding attached to Target Agreements is very small—only 1.5 percent under Pillar 3 "Innovation Funds." UDE allocates 83.5 percent under Pillar 1 (Basic Funding) and 15 percent under Pillar 2 (Performance Budget).

Figure 6. Target agreements within the three-pillar model in the University of Duisburg-Essen



Source: Authors based on UDE Dezernat Hochschulentwicklungsplan, Memo on Target Agreements and Strategic Development, March 2016 (all unpublished documents).

Continuity Aspects related to Funding Model

When institutions are further developing an existing funding model or transitioning to a new model, maintaining a sufficient level of continuity is essential, because too frequent, rapid, or substantial changes in a funding model are likely to cause difficulties in the process of adapting to a new model. Implementation of the new or revised allocation model should always be preceded by a comprehensive and systematic evaluation of the impacts of the old/existing model. The timing of evaluations is often fixed when the changes are implemented; the promise to evaluate outcomes of changes after a certain timespan increases trust in and acceptance of the reforms. The results of this evaluation should feed into the process of revising the old model or developing the new one. Often organic development of the new model is a better option than radical revision of the existing model. This means that a new model adopts some elements from the old model side-by-side with the new elements to be introduced. For example, formula-based funding taking into account the number of enrolled students could be revised to include a targeted number of awarded degrees before actually transitioning to measure the actual number of awarded degrees. The state funding model can also play a significant role in securing the continuity of internal funding models. The state should keep its funding modalities stable and fixed for a certain period (for example, three to four years) and communicate the foreseen changes in the formula to institutions well in advance. In the case of performance-based funding, for instance, institutions should know for how long the performance indicators in the formula are valid in order to properly align their internal funding model to the incentive structure provided by the state model. Changes in the state allocation formula or in the institutional allocation model that are too sudden and unpredictable are likely to increase the possibility of

noncompliance on the part of the institutions with the incentives established in the model. Annual budgetary changes can be limited to a few percent.

Continuity is also maintained by taking care of a reasonable level of unit financial stability. Unit-level operations and performances are subject to stronger periodic fluctuations than those of the institution as a whole. Smaller units with smaller budgets, particularly, often have less potential for smooth adaptation to a revised model. According to international best practice, there are alternative/complementary strategies to increase the level of continuity during the early years of model implementation. First, institutions can introduce a concept of a "learning year" to familiarize units with new allocation methods of the core budget. During this year, no real allocations are made, but units receive a calculation of how much funding they would have received if the new or revised model were 100 percent effective. The "learning year" can be followed by phased implementation (for example, a four-to-five-year period) when the amount of funds subject to the new allocation formula is increased through predetermined increments (for example, 20 to 25 percent increases in a year). After phased implementation, institutions can still keep "stop-loss measures" that set a limit on how much units can gain or lose in terms of resources in a single year. In some specific cases, a "hold-harmless period" can also be applied during which reallocations from the central funds are used to hold unit budgets to pre-implementation levels for a fixed period of time (cf. Education Advisory Board 2014). As an objective, securing a reasonable level of continuity should not, however, lead to a situation where the implementation of the new allocation model is put on hold, purposely delaying its complete implementation.

2.3 Requirements for "Good" Internal Funding Models

Based on the various notions mentioned above, it is evident that there is no single best allocation model that works for all institutions. Institutional culture, history, disciplinary composition, and other boundary conditions (for example, state budget cuts) influence the right allocation model for an institution at any given time. Moreover, each model has its own strengths and weaknesses. All "pure" models will need to be supplemented with additional elements or practices to mitigate their natural disadvantages or temporary fluctuations. Institutions in general will have to balance among many interests and (temporary) contexts or performance levels of various units while striving for different strategies or pursuing different profiles. Therefore, HEIs should be autonomous in choosing among the many alternatives of funding models and options. For instance, they should be able to choose a mix among the three pillars, backward-looking versus forward-looking, and types of performances rewarded, and the potential level and use of surpluses.

Rather than proposing what a "best funding model" would be, this section provides an outlook for the general normative requirements for "good" internal funding models, and provides a broad framework for the assessment of internal funding models. The requirements, introduced in the following sections, are derived from and backed by the following sources of information:

- System-level criteria for "good" funding models the World Bank team used in its analysis "Higher Education Financing in Latvia: Analysis of Strengths and Weaknesses" (2013–2014)
- International, particularly European, experiences, good practices, and standards on internal funding models based on findings from the recent research literature (as described in earlier sections)

- The team members' professional expertise in the field.

From these sources, the team identified the six (A–F) major requirements shown in Table 4. In the following, each of these requirements will be broken down to subsections and described in more detail.

Table 4. General requirements for a "good" internal funding model

A. Strategic orientation	A.1. Aligning internal funding model with external revenue streams and reflecting national goals
	A.2. Promoting institutional strategies and profiles
	A.3. Promoting unit-level objectives
B. Incentive orientation	B.1. Creating performance rewards and sanctions
	B.2. Providing clear and nonfragmented incentives
	B.3. Avoiding undesired side effects
C. Sustainability and balance	C.1. Combining top-down and bottom-up approaches
	C.2. Providing a sufficient level of stability
	C.3. Guaranteeing continuity in development
	C.4. Balancing the overall model architecture
	C.5. Promoting diversification of unit-level funding sources
	C.6. Balancing the key institutional missions
D. Transparency and fairness	D.1. Ensuring transparency
	D.2. Supporting the perception of fairness
E. Level of autonomy and flexibility	E.1. Guaranteeing financial autonomy and academic freedom
	E.2. Implementing an adequate level of regulation
F. Link to governance and management; practical feasibility	F.1. Increasing reliability and availability of data
	F.2. Ensuring administrative efficiency
	F.3. Ensuring coherence with other governance approaches and university culture
	F.4. Ensuring the ability of leadership to act

A. Strategic orientation

The incentive structure of the internal funding model must be compatible with the external revenue streams of the institution, and particularly with the state funding model. This means that the external financial incentives and the logic of institution-level revenue generation need to be translated into appropriate internal incentives through the internal funding model. Having an incompatible internal incentive structure will

significantly increase the risks of misguided organizational behavior and is likely to result in unsustainable institutional revenue generation. Alignment also means that the internal models reflect and contribute to the objectives and priorities of national and institutional higher education and research objectives.

⇒ ***Requirement A.1. Aligning internal funding models with external revenue streams and reflecting national goals.***

In addition to the external funding structure of an institution, internal funding models need to consider institutional strategies and profiles in line with the national policy goals and priorities. Internal models should support these objectives by incentivizing unit-level actions directed toward the implementation of the institutional strategy. This also requires internal procedures to reflect, discuss, and adjust the alignment of funding procedures and strategic goals—albeit without compromising the continuity in development (see C.3.).

⇒ ***Requirement A.2. Promoting institutional strategies and profiles*.**

Academic subunits such as faculties, schools, institutes, and departments often develop their own specific objectives under the broader framework of an institutional strategy. Unit-level specification and differentiation should also be promoted by the internal funding model to the extent they are sufficiently connected to the realization of the broader institutional mission and strategic goals. Therefore, the funding model should allow for the development of unit-level specializations by *granting* sufficient freedom and *directly* supporting at least some of the unit-level objectives.

⇒ ***Requirement A.3. Promoting unit-level objectives*.**

B. Incentive orientation

The internal model should reward high performance and at the same time sanction the subpar performance of the units. However, performance measurement should respect existing institutional cultures and subject- or discipline-specific prerequisites by allowing for a reasonable level of diversity and flexibility in performance measurement (diversity in indicators and their weighting) to the extent it does not endanger the perception of fairness (criterion D.2.). This also means that the rewards and sanctions applied in the allocation on higher levels leave the potential for the units to define to a certain extent their own rewards on lower levels of resource allocation.

⇒ ***Requirement B.1. Creating performance rewards and sanctions*.**

Unclear, conflicting, or too many priorities tend to result in overly complex internal funding models, fragmenting the incentives. Therefore, the model should be kept as clear and simple as possible so it can be understood by all parties. For instance, in performance-based funding, there should not be too few indicators (as this could be seen as unfair), but also not too many indicators (as this could lead to fragmented incentives).

⇒ ***Requirement B.2. Providing clear and nonfragmented incentives.***

It is possible that units react to incentives in a way that leads to undesired effects (for example, quantity at the expense of quality). The effects of the internal funding model should therefore be monitored by the institution to detect possible undesirable side effects.

⇒ **Requirement *B.3. Avoiding undesired side effects*.**

C. Sustainability and balance

The institutional funding model should reflect an appropriate mix between top-down (institutional level) and bottom-up (unit level) approaches in allocations. Institutional priorities set the broader frame for direction and profile of the whole institution, but there should be room for unit-level initiatives. What can be considered "a right mix" between the two approaches may differ according to the size, history, culture, and mission, as well as the (performance) developments within a particular institution. This is closely related to the notion within the university about the division of financial powers, which also must combine central and decentralized competencies.

⇒ ***Requirement C.1. Combining top-down and bottom-up approaches***.

The internal funding model needs to ensure a sufficient level of stability for the units, thereby ensuring their capacity to fulfill their core academic and administrative tasks. Unit-level operations and performances are subject to stronger periodic fluctuations than those of the institution as a whole, and smaller units with smaller budgets might have less potential to generate financial flexibility depending on the funding model in use. Stability can be maintained with a sufficient base funding component (often based on student and staff numbers), which units can build on incrementally. Promoting stability also requires that the cost differences, especially among academic fields, are considered to the extent it is reasonable and justified when determining the level base funding (for example, by using a moderate number of subject-specific coefficients/weights). Stability in indicator-based systems could be addressed particularly by applying multiyear averages or choosing indicators with high stability. Stability is also maintained by financial planning and building reserve funds.

⇒ ***Requirement C.2. Providing a sufficient level of stability.***

A funding model can generate the desired effects if its features remain stable over a substantial period of time. If the model is subject to constant changes, then the units would expect these changes and not adapt to the incentives. If there is insufficient time after a change in funding models before the next change is made, then there is little chance to work with the model productively and evaluation of its effects is not possible. If there are changes, they should be based on a careful evaluation of the model's impact.

⇒ ***Requirement C.3. Guaranteeing continuity in development*.**

In a typical "three-pillar" funding model there should be a legitimate balance between "basic funding" (Pillar 1), "performance-oriented funding" (Pillar 2), and "profile/innovation-oriented funding" of future developments (Pillar 3). In line with these pillars, internal funding models could set incentives in two ways: money can either be provided to initiate or support planned future performance (ex-ante funding, Pillars 1 and 3) or else past performance is measured and linked to funding (ex-post funding, Pillar 2). The share of ex-ante and ex-post components in the model should be balanced in a way that incentivizes units to develop their current and future activities as seen appropriate by the institutional- and unit-level leadership.

⇒ ***Requirement C.4. Balancing the overall model architecture***

Funding models should promote and incentivize revenue diversification strategies of the units to the extent it is reasonable, considering the mission and status of the units. Additional third-party revenue for units should create more possibilities to develop unit-level operations and increase the financial sustainability of the units (see also criterion D.2.). For instance, premiums on the acquisition of third-party funding can be a mechanism to achieve this.

⇒ ***Requirement C.5. Promoting diversification of unit-level funding sources***

Internal funding models should promote the core missions of higher education institutions (that is, teaching, research, and third mission) **in a balanced way, as well as the integration of these different missions.**

⇒ ***Requirement C.6. Balancing the key institutional missions***

D. Transparency and fairness

Funding models should be understandable in the sense that it is clear why one unit receives more or less funding than another. When discretionary funding decisions are made (for example, targeted funding for some units), all parties should know how these decisions are made and why, who decides, and based on which criteria. Also, funding for nonacademic units, such as central administration of the institution, maintenance services, and other support services, should be allocated in a transparent manner that justifies the costs they accrued to the benefits they produce. Transparency could also require reporting activities to accompany the funding model.

⇒ ***Requirement D.1. Ensuring transparency***

Internal funding models should lead to a perception of fairness (with the above-mentioned transparency as a precondition). Fairness depends on the perceptions actors have about the allocation criteria. Especially in the case of base funding, allocations should not merely perpetuate the historical distribution of funds among units, especially if this distribution is based on decisions made a long time ago with no connection to current circumstances. Also, unit-level efforts to accumulate third-party funding should not lead to cutting the level of resources allocated through the internal funding model. Moreover, to promote efficiency and a sense of fairness, units should also be able to keep a fair share of the overheads of third-party funding and own revenues. When

cross-subsidization among the units is practiced (that is, some units' "losses" are covered by other units' "wins"), this should be done in a transparent manner and backed with reasonable and well-communicated justification. In general, the perception of fairness could be increased by providing legitimization for allocation criteria (for instance, through explicit strategic fit of allocation and institutional goals).

⇒ ***Requirement D.2. Supporting the perception of fairness*.**

E. Level of autonomy and flexibility

Financial autonomy means that units should be able to spend their money flexibly and according to their own decisions to the extent it is technically possible (lump-sum budgeting/block grants). Units should also be able to keep any accumulated surplus at the end of the financial year and pass it on to the following year (or at least they should have a reasonable percentage of the surplus to guarantee the incentive to generate income). Moreover, funding mechanisms should not be used to restrict academic freedom of units or individuals by, for instance, influencing the content of teaching or preselection of certain research topics, publications, and dissemination activities as desired outcomes.

⇒ ***Requirement E.1. Guaranteeing financial autonomy and academic freedom***

Financial autonomy should not lead to a situation without any financial rules. Rules should help prevent the misuse of funds and they could also set common standards. Regulation needs to create transparency and foster trust, but it should not restrict the necessary flexibility.

⇒ ***Requirement E.2. Implementing an adequate level of regulation***

F. Link to governance and management; practical feasibility

Internal funding models must rely on trustworthy reporting and accurate performance data. The development of the internal funding model might require improvements in reporting procedures, or in procedures collecting new or enhanced data. For instance, new performance information may need to be gathered if new performance-oriented elements are introduced, or new cost data may be needed to support a field-oriented differentiation of funding. Such models can be introduced only if the necessary data are available.

⇒ ***Requirement F.1. Increasing reliability and availability of data***

Efficiency (that is, the minimization of transaction costs) of a funding model is an important criterion that has to be balanced against other priorities. The development and administration of funding models can be costly and time-consuming, and the development, collection, and maintenance of required data could demand intensive institution-wide efforts. For example, the level of precision employed to measure performance must be balanced with the efficiency of developing and monitoring the indicator(s).

⇒ ***Requirement F.2. Ensuring administrative efficiency***

Internal funding models should not be undertaken independently of the broader steering environment in which institutions are operating, but should be based on a coherent institutional approach that takes into account other aspects of the national steering system in general, and the combination of policy instruments of governance, in particular (legislation, regulations, quality assurance). This includes providing operational support to institution-internal bodies such as student councils, in accordance with the legislation. Also, special cultural features of a university, such as the intensity and internal acceptance of negotiation-oriented vs. parameter-based approaches, should be considered.

⇒ ***F.3. Ensuring coherence with other governance approaches and university culture***

The strategy-oriented design of a funding model is possible only if the university leadership is empowered to make the necessary decisions.

⇒ ***F.4. Ensuring the ability of the leadership to act***

3 Internal Governance

In the following analysis of international trends and good practices in the field of internal governance, special emphasis will be placed on the capacity of higher education institutions for strategic development, their approaches toward establishing accountability, their design of relations between members within and outside of institutions, and the differentiation of functions in institutions and the related distribution of powers. Defined broadly, internal governance encompasses "internal management structures, decision-making arrangements and leadership roles and the relationship between these internal functions and the role of governing bodies" (Middlehurst 2004, 259). The focus on the distribution of functions and powers and on structures and processes behind the legitimated determination of institutional strategies and policies distinguishes internal governance from management (cf. Eurydice 2008), which comprises the effective and efficient attainment of institutional objectives on a day-to-day basis under already established rules—even though there are various connections and a certain degree of overlap between the two.

Any discussion of internal governance must consider the importance of framework conditions, including when addressing instances of *good* internal governance. The characteristics of higher education systems and institutions not only influence the freedom of institutions to design their internal structures and processes, but also what a good design itself would be in a given case. Features of higher education systems that are relevant in this respect include their histories, traditions, and values, their basic regulatory framework, and their overall approach toward governance on the system level. The ensuing autonomy of institutions is of particular importance, which—even though not an end in itself—is supposed to lead to improved outcomes such as higher-quality programs or more and better research results. This refers, first, to the institutions' freedom in influencing their internal governance structures and processes. However, autonomy related to academic matters, funding, and human resource management are relevant in this context as well, because they influence the institutions' latitude in designing governance arrangements and the related internal framework conditions. Institutions also exhibit particular historical traits, traditions, and values, and differ in, among other things, size, composition, and profile. Since both types of particularities influence which way of designing internal governance structures and processes would be best, there can be no one-size-fits-all solution.

Nevertheless, similar developments in various, especially European, countries and related discussions on general functions of internal governance arrangements and options for their appropriate design have presented possibilities for identifying cornerstones and innovative approaches of good internal governance that are worth considering for all higher education institutions.

3.1 General Developments

The development of internal governance arrangements cannot be examined adequately without considering the overarching developments of governance approaches on the level of higher education systems. Against the backdrop of a general reorientation of public management approaches under the heading "New Public Management," and criticism of traditional modes of higher education institution governance related to their fit, with increasingly complex, international and competitive environments, fundamental changes in how higher

education systems are governed emerged in many countries (cf. Antonowicz and Jongbloed 2015; Krücken 2011). Focusing on the developments in Europe, four major shifts can be observed (Krücken 2011):

(1) The replacement of direct regulation and steering of higher education institutions by the state with indirect ways of influence, especially by defining objectives and leaving the way in which these are attained at the discretion of institutions
(2) A proliferation of actors other than the state that assume governance functions, ranging from quality assurance agencies and (other) intermediary bodies to governing boards
(3) The growing importance of the supranational, European level as a layer of higher education governance, among others related to developments such as the Bologna Process
(4) Competition among higher education institutions and academics becoming a relevant element of higher education governance.

Even though, in the following discussion, the relevance of all four of these major shifts will be considered for internal governance arrangements, the development of system-level governance approaches away from direct state influence via legislation toward indirect forms of steering, for example, via performance-based funding allocations, has the most far-reaching implications. The gradual withdrawal of many European governments from exerting direct influence on higher education institutions in favor of indirect steering approaches focused on determining objectives has a certain type of higher education institutions as a complement (cf. Antonowicz and Jongbloed 2015; de Boer and File 2009; Eurydice 2008; Middlehurst 2004). What is required are institutions that are autonomous, albeit embedded in systems of accountability, and capable of acting strategically as integrated entities. Developments in this direction can be observed in many European countries but are particularly pronounced in some, among them the Netherlands (see Example 6). This overall shift has been strongly promoted by different actors on the supranational level, among them the European Commission as part of its Modernization Agenda (EC 2006, 2011; cf. de Boer and File 2009) and the European University Association (cf. Estermann and Nokkala 2009). It is nevertheless important to take into account that despite the fact that the trends outlined above can be observed in various countries, there are differences in their specific effects, in the ways in which they are taken up, and in the pace of development among countries (cf. Krücken 2011).

Example 6. University governance reforms in the Netherlands

The Netherlands is one of the European countries where the modernization of university governance is particularly well advanced, an outcome of several major reform steps from the early 1970s to the late 1990s. A first fundamental change occurred in 1970. Previously, the internal governance model of universities consisted of a senate staffed with professors responsible for the academic governance component and a board of curators for the administrative component, whose members were appointed by the government. In 1970, university councils were introduced as the universities' major decision-making body. They were staffed with democratically elected representatives from all internal stakeholder groups, that is, academics, nonacademic staff and students, and external stakeholders. The decisions of this new body were then implemented by an executive board, comprising the rector. A newly established board of deans, with mostly an advisory function, formed the third component of the new structure. Similar structures were established on lower institutional levels.

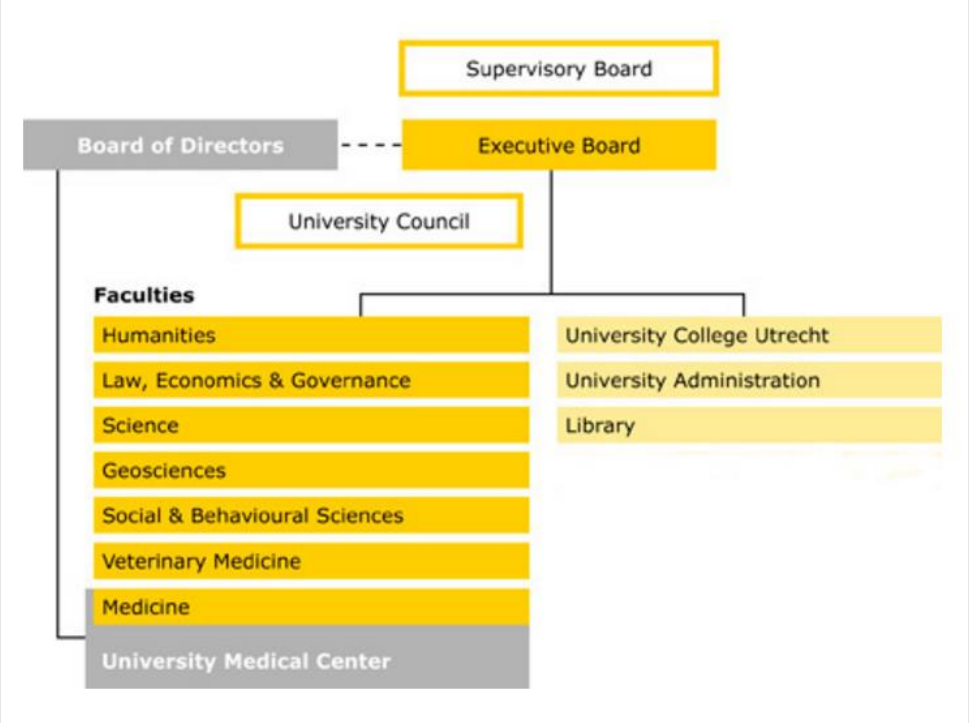
In 1985, a ministerial policy document introduced the idea of indirect steering by the state, which influenced the legal decisions in the following years. The policy document foresaw a restricted role for the state vis-à-vis the universities, focused on determining broader framework conditions and granting greater autonomy and latitude for self-steering to the universities. Among the rationales behind this new perspective were increasing the universities' responsiveness to their environment, their responsibility for performance, and their effectiveness and efficiency.

The new perspective on university governance culminated in the 1997 "Act on the Modernization of the University Governing Organizations," which led to a fundamental transformation of universities. New internal governance structures emerged (see Figure 7), based on a shift of competences from the government to universities. Key elements of this change comprise:

- the establishment of a supervisory board with external members appointed by the government, which appoints the executive board and assumes a supervisory and control function, among others by approving institutional strategies, budgets, and annual reports
- a revision of the role of the executive board, which became the main decision-making and management body of universities
- a revision of the role of the university council, which now has mostly an advisory role and consists exclusively of staff and student representatives
- a strengthened position of deans or faculty boards as the most important decision-making instances on the faculty level (implying a mostly advisory role for the faculty councils).

In addition, the previous system of electing leaders was replaced by a system of appointments, ranging from the executive board, which is appointed by the supervisory board, down to the program directors, which are appointed by the deans.

Figure 7. Internal governance structure of Utrecht University



Source: Utrecht University; http://www.uu.nl/en/organisation/governance-and-organisation.

The developments in the Netherlands illustrate the connection between changes of system-level and institution-level governance. Especially the shift toward more indirect forms of steering by the state beginning in the 1980s has had a clear impact on internal governance. This shift induced the need for more efficient governance structures that increase the universities' potential for proactive, strategic development—to which the current governance arrangements in the Netherlands are one potential solution.

Source: Authors based on Antonowicz and Jongbloed 2015.

The development of higher education institutions in the direction of corporate, strategic actors with an increasingly greater resemblance to other types of more integrated organizations affects internal governance arrangements in many ways. As a result of the development of higher education system governance and promoted by the idea that more autonomous institutions with certain internal structures can increase their performance, efficiency, and responsiveness to external demands, a transformation of internal governance structures occurred in many institutions that can be described as a shift from academic self-governance and the responsibility of collegial bodies to more managerial self-governance and individual responsibility (cf. de Boer and File 2009; Eurydice 2008; Middlehurst 2004): Overall the "university as an organization is transforming into an organizational actor, i.e. an integrated, goal-oriented, and competitive entity in which management and leadership play an ever more important role" (Krücken 2011, 1). This general development can be broken down into five key elements (Krücken 2011) the implications of which for internal governance will be spelled out in the remainder of this report:

(1) The formation of more hierarchical decision-making structures on all institutional levels at the expense of the powers of collegial decision-making bodies, which brings with it a new focus on leadership in higher education
(2) The increasing relevance of accountability (within an overall context of increased autonomy and accountability of institutions), not only of individuals but also of institutions as a whole
(3) The growing importance of institutional objectives defined by institutions themselves and set out in related documents
(4) The differentiation of organizational structures via the establishment of organizational units for various (new) purposes
(5) The increasing significance of management professionals within institutions.

Again, differences among higher education systems and institutions exist with respect to the specific impact of these developments. As will become clear, however, similar ways of dealing with this change and innovative approaches toward tackling the related challenges with a broader applicability can be observed.

A comparison of the abovementioned general developments with current developments and the state of higher education in Latvia suggests that the associated changes in internal governance are (becoming) relevant in Latvia as well—and, therefore, also the approaches and practices discussed below. Especially since the introduction of a performance-oriented funding pillar into the state funding model, a shift toward a more output-oriented steering approach can be observed in Latvia. Perceiving the abovementioned general developments of internal governance as a necessary complement to changes on the system level, it appears that similar changes within Latvian higher education institutions could benefit the coherence of the overall governance approach in the country, in addition to the potential benefits connected to them in terms of enhanced performance and institutional efficiency.

Latvian higher education institutions already enjoy a comparatively high degree of autonomy, and have for some time. In a comparison of the autonomy of institutions in 28 European higher education systems in 2010 (Estermann and others 2011), Latvia ranges in the "medium high" group in terms of organizational autonomy[10] (see Table 5). This implies that there is autonomy for institutions to design internal governance structures and processes according to their needs, but not being in the "top cluster" implies that restrictions from outside are also relevant for the efforts of Latvian higher education institutions to shape their internal governance arrangements.

Table 5. Organizational Autonomy of Higher Education Institutions in Europe, 2010

Rank	System	Score
1	United Kingdom	100%
2	Denmark	94%
3	Finland	93%
4	Estonia	87%
5	North Rhine-Westphalia	84%
6	Ireland	81%
7	Portugal	80%
8	Austria	78%
	Hesse	78%
	Norway	78%
11	Lithuania	75%
12	The Netherlands	69%
13	Poland	67%
14	Latvia	61%
15	Brandenburg	60%
16	France	59%
	Hungary	59%
18	Italy	56%
19	Spain	55%
	Sweden	55%
	Switzerland	55%
22	Czech Republic	54%
23	Cyprus	50%
24	Iceland	49%
25	Slovakia	45%
26	Greece	43%
27	Turkey	33%
28	Luxembourg	31%

Source: Estermann and others 2011, 53.

[10] Latvia ranged in the "medium high" group in financial autonomy as well, in the top cluster in terms of staffing autonomy, and in the "medium low" cluster in academic autonomy (Estermann and others 2011).

3.2 Main Trends and Good Practices

a) Strategic Development and Governance

Strategy Development and Implementation

Determining directions for the future development of higher education institutions is among the key functions of internal governance, a function gaining in importance under system-level governance approaches centered on institutional autonomy. Increasing institutional autonomy has been identified as one of the cornerstones of developments in the field of higher education governance in recent years. For the benefits expected from this shift to materialize, institutions have to engage in setting the course for their development. The engagement of institutions in strategic planning has also been promoted by new challenges they face, among others continuous changes in their environment, including policy objectives, and declining funds. And indeed, institutions in many countries have intensified their engagement in strategic planning activities, in particular via the development of institutional strategies.

Institutional strategies are at the center of strategic steering activities of higher education institutions, but have to meet different requirements to be able to fulfill this function adequately. Serving as the main point of reference for institutions' strategic planning, institutional strategies spell out plans and related objectives, in many cases complemented by action plans defining specific steps toward their implementation. For both strategies and action plans, clarity and precision are basic preconditions if they are to serve as guidelines for the activities of institutional units and members (cf. Hanover Research 2013). A common problem with institutional strategies, however, is that they are rather generic and do not contain clear priorities (cf. Hofmann 2005). The objectives defined in strategies have to fit the institution in question, that is, its profile and mission, its particular circumstances and its strengths and weaknesses, and be designed in a way that secures the commitment of the institutions' members. Additional conditions for the functionality of strategies and action plans are that they are harmonized with other institutional strategies and regulations, contain a realistic time frame for implementation, and comprise a sound combination of both short-term and long-term goals (cf. Hanover Research 2013).

Key to attaining strategies that are fit to underpin strategic steering activities is the way in which they are developed (cf. Hanover Research 2013). Adapting strategies to the circumstances and characteristics of institutions requires an in-depth knowledge of their activities and environment. A first key step of any strategy development process therefore is an analysis of institutional strengths and weaknesses and their relation with the institutional environment and its potential future changes. The fit between strategies and institutions can be promoted by the involvement in the strategy development process of a wider range of an institution's members and stakeholders from the institutional environment (for details see "3.2 c) Good Governance 1: Cooperation and Participation"). This allows for the representation of different interests and opinions, and can promote the commitment early on. Engaging diverse stakeholders in the strategy development process also opens up the possibility for connections among different parts of an institution to be integrated into the strategy and can support better cooperation among these parts during the strategy implementation process. The involvement of higher education institution members can be implemented in different ways, comprising a diverse composition of the team responsible for the strategy development process, regular exchanges within the wider community of an institution as part of the development process, and an active internal information policy accompanying the entire process. Among the specific instruments that can be used for these purposes are full assemblies of an

institution's members, open-space workshops, world cafés and leadership retreats, and surveys and websites developed solely for the purpose of strategy development. In the European practice of strategic management, there are many good examples for the use of strategy tools in higher education institutions. However, their implementation sometimes leads to imperfect or partial models, where for instance institutions do not implement the strategy process as a continuous management cycle. Even though such experiences can also be of value for institutions, this report focuses primarily on examples of good practice.

Beyond the day-to-day management-related aspects of the implementation of strategies, three overarching issues relevant for ensuring that strategies influence the development of institutions are the plans for their implementation, their relation with budgets, and the support their implementation receives from staff members. Guiding the implementation process, action plans can serve as an important instrument by determining relevant aspects such as the timeline of the entire process, the individuals responsible for parts of the strategies, the resources required for attaining objectives, and the ways in which the attainment of objectives is measured (Hanover Research 2013). Regarding the second overarching issue, the relation between institutional strategies and funding is twofold (Hanover Research 2013). On the one hand, the financial means available should be accounted for when developing strategies to make sure that the implementation of objectives is realistic from a financial perspective. The budgets and the allocation of funds, on the other hand, can be guided directly by the strategic plans. As has been discussed, gearing activities of units and individuals toward implementing strategies and their objectives can take place in different ways. A precondition for many of the potential measures is that those responsible for the strategy implementation process strive to maintain the momentum within the institution and the motivation of all internal stakeholders involved (Hanover Research 2013).

Complementing the processes of strategy development and implementation, a close monitoring of the implementation process and ensuing actions are required for successful strategic development (cf. Hanover Research 2013). Obtaining a clear picture of the state of the implementation process regularly is important for two reasons. Institutional decision makers must be able to identify where efforts would have to be intensified to reach strategic objectives, and where adjustments of plans and objectives could be necessary due to changes in the institutional environment or unforeseen obstacles. To promote the adaption of institutional members' activities on all institutional levels to the implementation progress, monitoring procedures can also comprise targeted information, reporting, and discussion events related to the progress and reasons for success or a lack thereof.

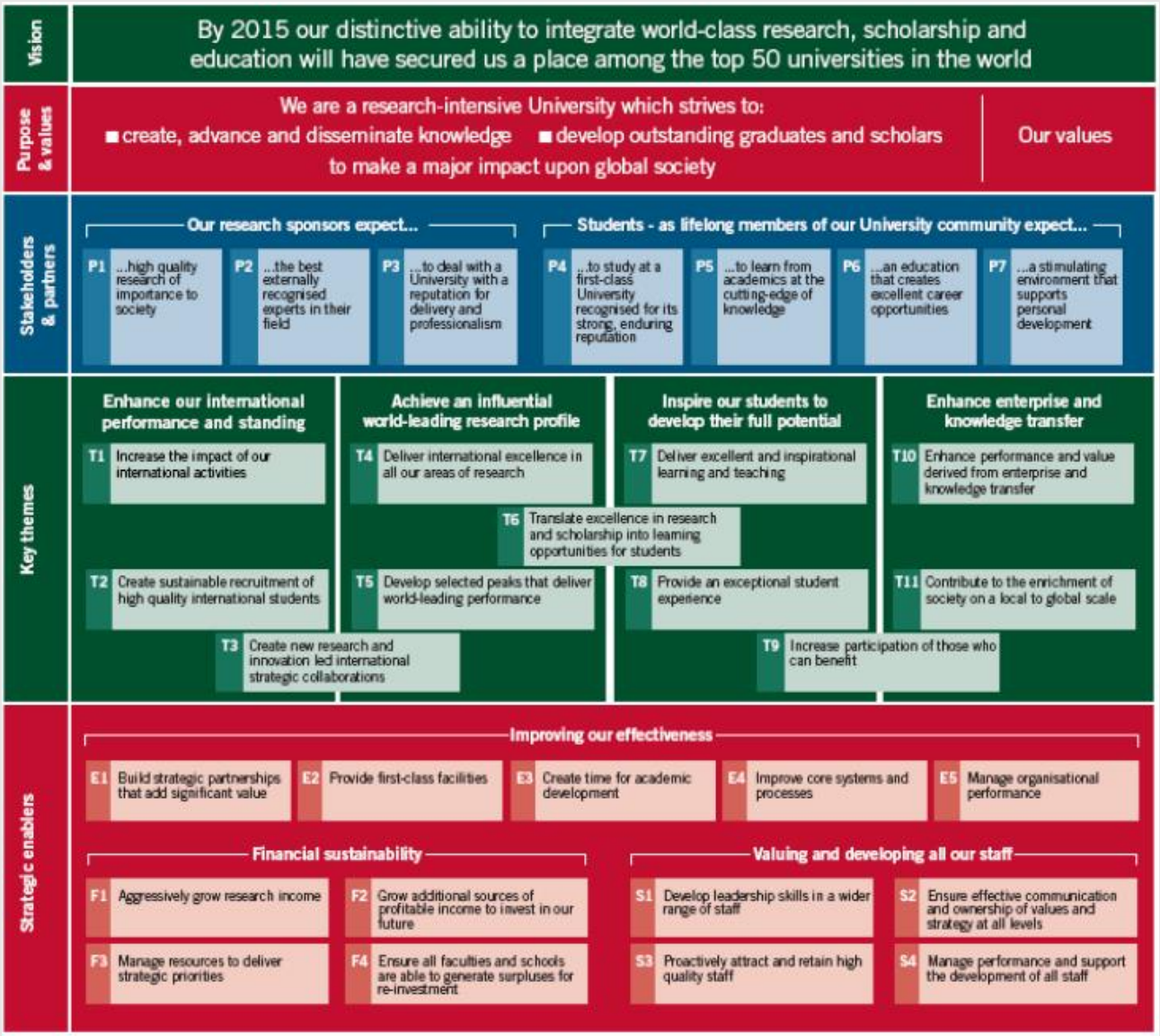
Designing processes of strategy development, implementation, and monitoring as parts of an overarching project to promote the strategic development capacities of institutions bears great potentials, but requires the right framework conditions and actions—as the case of the University of Leeds reveals (see Example 7).

Example 7. The strategy process at the University of Leeds

To prepare the institution for successful development within an increasingly competitive environment, a comprehensive strategy process was initiated at the University of Leeds in the early 2000s. As a big, research-intensive institution facing the challenge of maintaining its current position within an increasingly competitive environment, the University of Leeds, United Kingdom, started a process of reassessing its vision for the future and preparing its implementation in the early 2000s. The overarching objective was to establish

a shared understanding related to the future development of all parts of the university to trigger a joint response to changing circumstances. As a first step, a vision for the future of the university was developed through a consultative process based on an intense investigation of the current state of the institution. This vision then served as the major point of reference for the strategy process.

Figure 8. The Strategy Map of the University of Leeds



Source: Donoghue and Kennerley 2008, 7.

Two instruments were used for the entire strategy process: a strategy map and the balanced scorecard approach. Using a strategy map was supposed to lead to a clear, easily understandable overview on the strategy that could, among other things, be used for internal communication processes. The scorecard approach was chosen to establish a basis for measuring the performance related to the implementation of the strategy (for details on the scorecard approach see Example 14). Via the strategy map (see Figure 8), a

connection was established between the overarching vision, institutional values, and the expectations of external stakeholders on the one hand, and broader themes for the implementation of the strategy, objectives and key factors contributing to attaining the defined goals on the other. During the entire strategy development process, particular attention was given to the measurement of objectives, also to support institutional leaders with managing the strategy implementation process. The scorecards, for instance, were used to define key outcomes, contributing to the accountability and ownership of internal stakeholders, and to internal monitoring and evaluation processes related to strategy implementation.

Five key success factors for promoting strategic development capacities of higher education institutions were identified in the course of the strategy process. The strategy process of the University of Leeds was designed based on relevant findings from the research literature and good practices in the field, also taking into account approaches in sectors other than higher education. This background knowledge coupled with the experience with the strategy process itself led to the identification of the following five key success factors for efforts to improve the strategic development capacities of higher education institutions:

- Leadership: Throughout the entire strategy process, top-level support is needed; in addition, leadership on all institutional levels is required for the interpretation of the strategy within specific contexts, setting priorities accordingly and ensuring actions on the unit level in line with the overall strategy.
- Strategy development: Starting from a shared vision, a consultative approach with broad participation of the institution's members is important for a high-quality strategy and for creating ownership.
- Alignment: An overall alignment of institutions with their strategy has to be established; for this, teams responsible for key themes can establish horizontal coordination, which complements vertical coordination via line management.
- Communication: Systematic efforts of communication around the entire strategy process are needed to increase the awareness of internal stakeholders (from a general understanding to specific implications) and promote the ownership and engagement of individuals; in this, communication approaches should not aim at the transfer of information exclusively, but also at convincing institutional members of the value of the strategy.
- Governance: The implementation and monitoring process requires governance to obtain a clear understanding of the progress of the implementation process, including potentials for improvement.

Source: Authors based on Donoghue and Kennerley 2008.

Fitness for Purpose: Alignment and Adaption of Governance Structures & Anchoring and Connecting Higher Education Missions

Like internal funding models, internal governance structures and processes are not an end in themselves but serve different purposes, first and foremost the strategic development of institutions. This makes their fitness for purpose the overarching objective for their design. The fact that there is no one-size-fits-all solution implies that each institution has to adapt its governance structures to the system-level framework in which it is acting,

to the ever changing environment it faces, and to its own profile and ambitions for the future. Especially to the extent institutions strive to be—and are requested to be—responsive to their environment and the demands of external actors, governance structures have to be sufficiently adaptive, flexible, and able to generate innovative solutions. As discussed, institutions in many countries have gained autonomy to influence their internal structures, clearing the way for targeted adaptions.

Adaptions of internal governance structures to secure their fitness for purpose can apply to different parts of an institution, to its "steering core," its "academic heartland," and its "developmental periphery" (Clark 1998; cf. Middlehurst 2004). Changes cannot only apply to what might be considered internal governance in a narrow sense—that is, the "steering core," consisting of leadership roles and decision-making structures—which will be at the center of the discussion of international trends and good practices in the last two sections (see "3.2 c) Good Governance 1: Cooperation and Participation" and "3.2. d) Good Governance 2: Differentiation of Functions and Distribution of Powers"). Changes can also apply to the academic structures of an institution, the "academic heartland," and to structures that are not at the center of decision-making processes but add greatly to the overall responsiveness of institutions, the "developmental periphery."

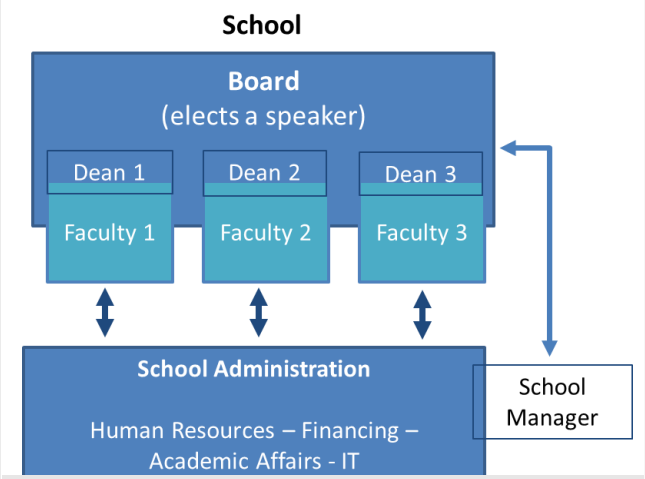
A prominent trend related to the academic structures of institutions that can be observed in various countries is a shift toward bigger units (Middlehurst 2004). Many institutions see a benefit in using internal potentials for synergies, in both academic and financial terms, and in developing units with a critical mass, especially in research. Changing external demands that require transdisciplinary responses from higher education institutions have led to the need to promote cooperation across academic disciplines and structures within institutions. Against this backdrop, many institutions have started to rearrange their internal structures by establishing bigger units. A similar, albeit less formal way of attaining some of these goals is the establishment of virtual structures within institutions such as research platforms. Reverting to specific cases of major restructurings of academic units allows for identifying their potential as well as critical aspects worth considering during related planning and implementation processes—as will be done for the Technical University Dresden (see Example 8) and the Osnabrück University of Applied Sciences (see Example 9).

Example 8. The internal restructuring process at the Technical University Dresden

A comprehensive internal restructuring of academic units has been undertaken by the Technical University (TU) Dresden to realize synergies in the fields of teaching, research, administration, and infrastructure. As part of a broader development concept for the TU Dresden, Germany, 14 faculties were gradually transformed into five schools during a process that started in 2012. The objectives behind this transformation were to use synergies, increase interdisciplinarity, provide units with greater autonomy, and enhance their strategic and operative scope. A particular feature of this undertaking is that the restructuring covers administrative functions more broadly. The new schools not only carry out those administrative tasks that were formerly performed by the faculties, but also receive competences from the central-level administration.

A special feature of the internal restructuring is the elaborate process designed to ease the transition to the new model. The process comprises three phases that gradually fade in the new structure. In the first phase, lasting one year, the new unit structures were established virtually, that is, first elements of the new structure were introduced in the form of a board consisting of the faculties' deans and a manager responsible for the school (see Figure 9) without actually changing the rights and responsibilities of the faculties. This allowed the faculties to adapt their processes internally to the new structures. In the second, current phase, responsibilities are being transferred from the faculties and the university's central level to the school administrations. On completion and positive evaluation of this phase, a third phase is foreseen that would transfer the remaining responsibilities from the faculties to the schools. The entire process has been accompanied by an active change management, including individuals responsible for the change process and regular meetings of the rectorate and the faculty representatives.

Figure 9. School structure at the Technical University Dresden



Source: Authors based on Dresden Concept (2011, 46).

Source: Authors based on Dresden Concept (2011).

Example 9. The internal restructuring process at the Osnabrück University of Applied Sciences

At the Osnabrück University of Applied Sciences (UAS), the internal restructuring of academic units was used both to strengthen the position of units and to promote their integration into and connection to the strategic development of the institution. In addition to merging eight departments into four faculties, the deans of the newly established faculties were simultaneously assigned to the position of vice-presidents of the Osnabrück UAS, Germany, with responsibilities for certain portfolios, such as teaching, research, and open access. For the promotion of strategic objectives related to the portfolios, central units acting under the vice-presidents were also established. There were two objectives behind this approach: to establish bigger units, strengthen the position of deans, and promote their professionalization on one hand, and to generate a direct tie between the deans and the institutional strategy by integrating them into the institutional leadership on the other. That way, a strong management board was created and the internal alignment of strategies strengthened.

Several of the proliferating challenges and demands that higher education institutions are confronted with today have been taken up by institutions as a distinguished element of their profiles, and have led to adaptions of the "developmental periphery" of institutions in the form of new structures, bodies, and individuals with an explicit mandate to guide institutional activities in these areas (cf. Krücken 2011). Among the examples for such fields of activity are internationalization efforts, outreach activities, regional engagement, and knowledge and technology transfer. Anchoring these functions in the internal governance structures is in many cases an attempt to institutionalize relationships with external actors and provide a link between them and the core of institutions, and to establish new support structures for internal stakeholders (cf. Middlehurst 2004), especially if the required skills have not been present within institutions before. One of the approaches toward institutionalization is the assignment of such a function to members of the central leadership, such as the establishment of the post of vice-rector for internationalization. Other approaches are the establishment of entirely new units such as technology transfer offices and the establishment of matrix structures. Together, different possibilities for anchoring institutional functions and profile elements can lead to a substantial institutional transformation, as the example of the University of Strathclyde shows (see Example 10).

Example 10. Knowledge exchange at the University of Strathclyde

Having designated knowledge exchange as a key component of its institutional mission, the University of Strathclyde has integrated this objective into its governance structures in various ways. The combination of academic excellence with relevance for the society and the economy is part of the mission of the University of Strathclyde, United Kingdom. The resulting emphasis placed on knowledge exchange activities is also visible in the internal governance structures, namely through:

- an associate principal for research and innovation
- a deputy associate principal for research and knowledge exchange and for research, knowledge exchange, and innovation
- a vice-dean for knowledge exchange within each faculty
- a strategic committee covering research and knowledge exchange
- a service unit for research and knowledge exchange services, supporting institutional members with, among other things, licensing processes and the creation of spin-out companies.

Source: Authors based on the website of the University of Strathclyde; http://www.strath.ac.uk/.

In the face of these possibilities for improving the fitness for purpose of governance arrangements—several more of which will be addressed below—and a constantly changing institutional environment, continuous monitoring and related adaptions of internal governance structures and processes have become an ongoing task for higher education institutions and one that deserves to be anchored in internal governance arrangements (cf. Middlehurst 2004). From a certain scale onward, change is nothing that institutions can accomplish in passing. A commitment of the institutional leadership to manage change processes is required. This includes taking into account factors that can promote or inhibit the implementation of change, as well as efforts to promote the uptake of reforms by an institution's members, among others through an intense internal communication and targeted incentives.

b) Autonomy and Accountability

Protection of Academic Freedom and Assurance of Academic Integrity

The freedom of teaching and research lies at the heart of higher education. Securing it within reasonable limits is among the functions that adequate internal governance arrangements have to fulfill. Even though academic freedom is anything but easy to define, it is a crucial precondition for higher education institutions and systems to function properly (cf. Altbach 2001). Broadly defined, academic freedom refers to "the freedom of individual academics to study, teach, research and publish without being either subject to or to cause undue interference" (Kivistö 2007, 72). Securing academic freedom is the responsibility of all higher education stakeholders, including higher education institutions. The institutions' responsibility has, for example, been reasserted within the Magna Charta Universitatum signed by more than 800 universities from over 80 countries.[11] The Standards and

[11] http://www.magna-charta.org/magna-charta-universitatum.

Guidelines for Quality Assurance in the European Higher Education Area (ESG) also mention academic freedom as a relevant issue to be supported by broader quality assurance policies (ENQA 2015).

Having said that, the relationship between internal governance and academic freedom differs from those of other functions like strategy development in that it cannot be confined to a distinct institutional locus but is connected to governance arrangements as a whole (cf. Berdahl 2010). This makes it all the more challenging to define specific practices in securing it. Still, different key challenges that merit being taken into account for sound handling of academic freedom by institutions under the developing governance frameworks discussed above can be identified (cf. Altbach 2001). These challenges relate to the change of governance structures themselves if the influence of the faculty (as opposed to leadership personnel and management staff) on academic matters decreases significantly, and to the growing interconnections of institutions and academics with outside actors, for example, via research sponsored by companies (cf. Berdahl 2010). Even though none of these changes necessarily implies a restriction of academic freedom, institutions are well-advised to take into consideration these and other potential tensions related to academic freedom within their governance structures in order to design and implement appropriate safeguard measures.

In the same way that institutions are responsible for securing academic freedom, they must also ensure that this freedom is not misused by academics. Preventing and dealing with academic misconduct is an important component of institutions' attempts to enhance accountability toward their environment (cf. Berdahl 2010) and a means to prevent harm to society and science in general (cf. OECD GSF n.d.). Higher education institutions are not the only actors responsible for academic integrity, but nevertheless have an important role to play. The mechanisms they can deploy comprise prevention as well as sound handling of cases of malpractice (OECD GSF n.d.). For adequate prevention, it is important to consider the reasons behind academic misconduct and to adjust instruments accordingly (OECD GSF n.d.). Among the potential preventive measures are the adequate education of researchers, open discussions on the issue within institutions, and transparency surrounding the processes and outcomes of investigations into supposed cases of misconduct (OECD GSF n.d.), ensured, for example, via a code of practice (see Example 11). In handling potential instances of malpractice, it is first important to differentiate between different types of misconduct and to assign suitable ways of reacting to each of them. The two basic steps in these cases generally are the investigation and, potentially, follow-up measures. An adequate investigatory procedure requires an accurate examination of the facts of the matter at hand, which might require a certain type of expertise on the part of those involved in the process, and adequate formal regulations concerning the process (cf. OECD GSF n.d.). The overarching objectives should be "fairness and consistency" (OECD GSF n.d., 6), which can be promoted by processes that (OECD GSF n.d.):

- are based on clear and publicly available principles, rules, and procedures
- exhibit and convey fairness, for example, by assigning different tasks within the process to different, independent bodies and actors
- do not intrude on academic activities more than necessary, possibly promoted by regular assessments and adaptions of the process
- account for the links between administrative procedures and legal procedures that might become necessary at a later stage.

Two basic, adequate forms in which these processes can be organized are bodies responsible for misconduct within institutions and bodies established on the national level. The former approach has the advantages of

potentially assuring a coherent practice throughout the entire institution and increasing the trust of academics in the processes, but might bear problems related to conflicting interests within one institution (OECD GSF n.d.). National-level bodies also have advantages, namely a more stable supply with resources and a stronger influence on related matters vis-à-vis governments (ibid.), and potentially a more consistent approach across institutions.

Example 11. The code of practice and procedure for academic integrity of the University of Oxford

At the University of Oxford, United Kingdom, academic integrity is addressed by a code of practice and procedure. The code of practice and procedure related to academic integrity in research at the University of Oxford formulates expectations toward all those connected to the institution involved in research. These expectations pertain to the standards of ethics and integrity related to research, among others best practices in research, ethical and legal obligations, and potential conflicts of interest. The code also defines misconduct, sets out the responsibilities of university members, and covers the confidentiality related to investigations in potential instances of misconduct. A procedure for the handling of potential instances of misconduct is also defined. The aspects covered include the specific steps of the procedure as well as the relation of university-internal procedures with potential other procedures (for example, legal ones).

Source: Authors based on University of Oxford n.d.

Establishment of Accountability and Quality Assurance Mechanisms

In line with broader developments in the field of governance, instruments establishing accountability toward external entities, particularly quality assurance mechanisms, have gained in importance for institutions. Among the key trends in the field of governance discussed above was a reciprocal relationship between institutional autonomy and accountability. Accountability can be defined as "the obligation to report to others, to explain, to justify, to answer questions about how resources have been used, and to what effect" (Trow 1996, 310). It is important to distinguish at least two basic dimensions of accountability (Kivistö 2007), namely legal and financial accountability, and academic accountability. The first dimension, legal and financial accountability, addresses whether higher education institutions actually do what they are supposed to do according to the legislation, and whether they spend funds provided by governments on those activities for which they were foreseen. The second dimension, academic accountability, addresses the activities of higher education institutions directly, such as their efforts to promote processes of teaching and learning, and research. With increasing autonomy in different areas, institutions also face more demands for accountability in general and for compliance with specific accountability measures in particular. In this context, quality assurance mechanisms have emerged as one of the most important accountability instruments, no more so than in Europe, where they are ascribed considerable importance under the Bologna Process.[12] In Europe, this connection is also laid out in the main reference document on quality assurance, the "Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)," which states that a "successfully implemented quality assurance system

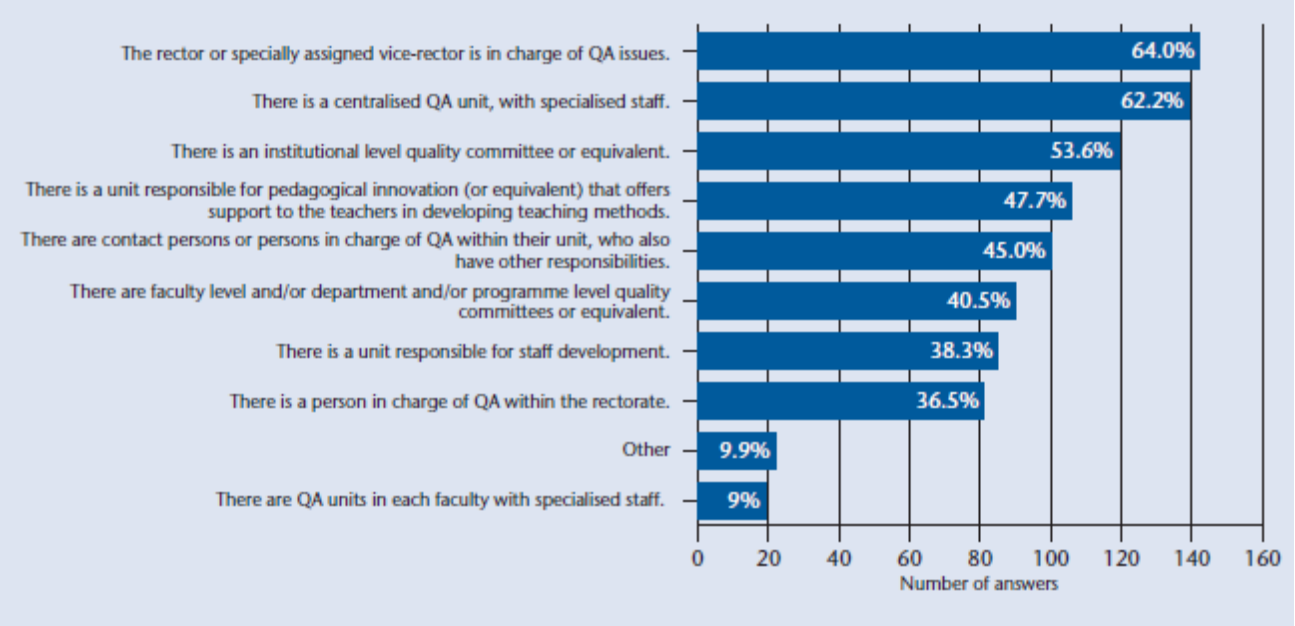
[12] Even though the following discussions focus on quality assurance related to processes of teaching and learning, quality assurance mechanisms addressing other activities of higher education institutions exist as well (cf. Loukkola and Zhang 2010).

will provide information to assure the higher education institution and the public of the quality of the higher education institution's activities (accountability)" (ENQA 2015, 7).

While external quality assurance (covering both accreditations and external evaluations) has received significant attention in this context, the ministers of Bologna Process signatory countries have agreed that "the primary responsibility for quality assurance in higher education lies with each institution itself" (Berlin Communique 2003).

Quality assurance within institutions, especially if seen as part of a broader "quality culture," has become connected to internal governance in various ways. Quality assurance and the related standards cover a far broader range of issues than those that are relevant in the context of internal governance. A first look at the connection between internal governance and quality assurance via the outcomes of a EUA project on quality cultures (Loukkola and Zhang 2010) reveals a variety of approaches followed by institutions (see Figure 10). The relationship between quality assurance and internal governance arrangements can be captured comprehensively when considering not only quality assurance in a narrow sense, but also in the institutional "quality culture," a concept and objective that has gained importance in the European quality assurance discussions in recent years. This concept goes beyond the mechanisms of quality assurance, which are supposed to promote a quality culture (ENQA 2015), by "complementing the structural dimension of quality assurance (quality management handbooks, process definitions, instruments, tools) with the dimension of values of an organisation, relating to the commitment of its members, the underlying values, skills and attitudes" (Vettori 2012). It remains debatable, however, to what extent institutions have already managed to establish such a comprehensive quality culture, even though various attempts can be observed (Hofmann 2005). The ESG provide a starting point for considering quality assurance in relation to internal governance arrangements by stating as one standard that: "Institutions should have a policy for quality assurance that is made public and forms part of their strategic management. Internal stakeholders should develop and implement this policy through appropriate structures and processes, while involving external stakeholders" (ENQA 2015, 11). According to the ESG, such a policy serves as the basis for establishing coherence in institutional approaches toward quality assurance, furthermore paving the way for the establishment of a comprehensive quality culture.

Figure 10. Structures supporting internal quality assurance



Source: Loukkola and Zhang 2010, 20.

Internal governance arrangements and an institutional quality culture interact on all institutional levels. The development of a comprehensive quality culture is dependent on the engagement of all internal stakeholders from the institutional leadership to the lower institutional levels, and on an institutional leadership on all institutional levels that finds the right balance between steering and setting frameworks on the one hand, and securing the broad involvement of internal stakeholders on the other (Sursock 2011; see also Example 12). An additional requirement is that institutions (Sursock 2011):

- ensure student engagement by caring for a good relationship between them and the units which they are part of
- enable quality assurance officers to be mediators who connect different parts of an institution, from the central leadership to individual academics
- establish a link between quality assurance and staff development as well as data and information management
- find the right balance between closed feedback loops on the one hand, and efficient, streamlined structures on the other.

Example 12. The attempt to establish a quality culture at the University of Zagreb

One institution that is actively trying to develop a quality culture is the University of Zagreb, Croatia, a case that provides insights into the related practical challenges. The attempts to establish a quality culture by the University of Zagreb must be seen in the light of the size (over 80,000 students; 29 faculties) and the decentralized character of the institution, with highly autonomous faculties. The university's quality culture is based on a policy that mandates the responsibility of the institution for quality in education, research, and knowledge transfer, and that quality assurance processes must be rooted in an adequate organizational structure. One important feature of this policy is that it makes preserving the academic values an overarching objective.

To attain the envisaged adequate structure, a committee and an office for quality assurance have been established on the central level. Additional support is provided by a vice-rector of the university. A committee for quality assurance has been established on the faculty level, as well, and the main procedures in the field have been harmonized across the entire institution. Even so, faculties can still adapt some of the quality assurance procedures to their particular circumstances. Through this structure, a variety of internal and external quality assurance processes are realized, including biennial reviews of quality assurance and audits by the national agency. Nevertheless, these structures and processes leave room for further developing a quality culture related to, among other things, awareness raising and increasing the engagement in quality assurance of all the individuals in the institution.

Source: Authors based on Divjak 2013.

Fundamental questions concerning internal governance arrangements apply to internal quality assurance and to the establishment of a quality culture. In both internal governance and quality assurance, questions of effectiveness and efficiency, and of the right mix between bottom-up and top-down elements, appear. With respect to quality assurance:

> *"The most effective internal QA arrangements are those that derive from effective internal decisionmaking processes and structures. Having clear accountability lines and clarifying responsibilities at all levels ensure that the quality assurance system is kept as simple as possible while closing the feedback loops and this should, if anything, reduce bureaucracy by limiting data collection, reports and committees to what is absolutely necessary. It is crucial to identify who needs to know what and, furthermore, to distinguish between what is necessary vs. what would be nice to know. In addition, students and staff feel at home, first and foremost, in their faculties and departments. This argues in favour of an optimal balance between the need for a strong institutional core and a degree of faculty responsibilities, between the need for an institution-wide QA approach and some local variations in faculties." (Sursock 2011, 9)*

This implies that key discussions on internal governance related to efficiency and finding the right balance between powers and responsibilities on different institutional levels are particularly relevant for processes of quality assurance, and could be an important point of reference when deciding how to anchor quality assurance

within higher education institutions. Discussions on internal governance might also profit from taking into consideration related developments and approaches in the field of quality assurance.

The relationship between internal and external quality assurance has emerged as an important element for institutions to consider. In Europe, the ESG establish a direct link between external and internal quality assurance by setting the standard that institutions "should undergo external quality assurance … on a cyclical basis" (ENQA 2015, 15). In addition to all benefits that institutions can derive from external quality assurance in terms of information on improvement potential and new insights into their institution, it also serves as an information link to the public. An important issue institutions need to consider in that respect is that the relation between internal and external quality assurance can lead to conflicts. Given that internal quality assurance approaches have to be adapted to the characteristics of the institution in question, conflicts with external requirements can appear (Sursock 2011). This requires that institutions constantly assess the relationship between the two elements, which can change over time (see Example 13), and engage actively in related exchanges on establishing a fit between the two (Sursock 2011).

Example 13. The development of quality assurance in Germany

The basic approach to quality assurance in Germany changed over the years, leading to shifts in the relation between the internal and external aspects of quality assurance. Starting from a quality assurance system focused on *program accreditation*, a largely externally controlled system where external agencies took the lead in quality assurance emerged in Germany. This system often resulted in a lack of ownership within institutions (and units), some of which did not sufficiently define their quality goals and related improvement measures.

As a reaction to these shortcomings, program accreditation was complemented by the option of *institutional accreditation*, and institutions are currently free to choose between the two approaches. Institutional accreditation assesses the internal quality assurance systems of institutions—a crucial step toward increased internal responsibility for quality assurance. There is currently a debate about developing the system further, namely toward audits, which would shift the focus from an *assessment* of the institutions' quality assurance systems to potential *improvements*. This would once more increase the institutions' responsibility for their quality assurance processes and, potentially, the ownership by the institutions' members, and could gear internal quality assurance provision more closely toward the specific profile and needs of the respective institution.

Establishment of Monitoring Procedures and Management Information Systems

To fulfill the responsibilities of internal funding models, strategic steering activities, and new accountability requirements, higher education institutions need more and better data and information on their internal processes. There is an increasing orientation toward the outcomes of institutional activities, and toward evidence-based decision-making, leading institutions to need better knowledge about their inner processes, among other things, to prove to their environment the scope and quality of their activities. In other words:

> *"The modernization of higher education (HE) has forced the institutions to store, manage and use existing information and knowledge stores in a better way in order to meet new accountability, effectiveness and efficiency requirements." (Pircher and Pausits 2011, 8)*

Many institutions have already started to implement a wider set of instruments that deal with the abovementioned challenges, but scope for developing approaches of information and knowledge management further remains (Pircher and Pausits 2011). This is especially true with respect to more comprehensive systems and data warehouses that integrate the various data sources that already exist within institutions (cf. Hillmer 2008). For information systems to function well under the new circumstances (cf. Pircher and Pausits 2011), they need to be efficient (different subsystems need to be connected and integrated) and to enable direct support for management, decision-making-related tasks, which requires up-to-date, accurate data that can be analyzed and compiled in different, useful ways. Information systems also need to be underpinned by an adequate IT infrastructure (cf. Pircher and Pausits 2011). One approach to promote this via adapting institutional governance structures consists in installing a Chief Information Officer (CIO), who is responsible for the development and management of information systems, as many institutions have already done (Pircher and Pausits 2011).

As a part of efforts to satisfy new information needs, a range of reporting and information instruments have been developed by different institutions that are aligned with the specific requirements of higher education institutions. Among these instruments are balanced scorecards (see Example 14) and intellectual capital statements (see Example 15). The main purpose of these instruments is to create transparency and to enable the identification of need for action related to institutional performance (cf. Hillmer 2008). Related to these instruments, two practical issues are important to consider: the design of the reporting procedures in general, and the development of suitable indicators. Key questions that need to be answered to adequately design the overall processes relate to the information and reports derived from them, namely (Hillmer 2008):

- what their content should be
- how the content is supposed to be presented
- who receives the data (for example, top-level management or lower institutional levels or both) and what this implies for the content to be presented
- when are data supposed to be delivered.

With respect to the specific indicators, issues similar to those discussed for internal funding models arise. These include the importance of specific objectives as a basis for indicators, the relation between indicators and what they are supposed to measure (which is especially relevant in the case of quality), the balance between too few and too many indicators, and differences between units and fields (cf. Hillmer 2008).

Example 14. Academic scorecards at the Münster University of Applied Sciences

Being among the German higher education institutions that relatively early experimented with innovative approaches of strategic steering and quality assurance, academic scorecards have become an important instrument at the Münster University of Applied Sciences (UAS). Based on the balanced scorecard instrument used for management purposes in many enterprises, an academic scorecard was developed at Münster UAS, Germany. This instrument builds on the notion that quality is not an absolute but a relative concept, which refers to the degree of goal attainment. Academic scorecards define the objectives for the institution as a whole, and for each unit, in the form of a table. In the table (see, as an example, Table 6), institutional and unit-level objectives are presented in a precise manner. Overarching objectives, specific targets, actions, measures, and target values are differentiated. As part of the strategic steering approach of the institution, the scorecards then serve as the basis for monitoring goal attainment and related managerial discussions and interventions. The academic scorecard is not an isolated information instrument but an approach to structure and guides the whole strategy process.

Table 6. Extract of the institution-level academic scorecard of the Münster University of Applied Sciences

Strategic objective	Specific target		Action
Education			
Improve higher education entrance	Maximize number of able potential students		Implement counseling concept "Wegweiser"
Supplement educational offers	Promote work-integrated programs		Implement concept for institutional development
Research			
Strengthen research	Support young researchers		Maintain doctoral school
Strengthen transfer activities	Support exchange processes		Improve research marketing
Resources			
Optimize use of human resources	Ensure staff satisfaction		Facilitate compatibility of family and career
Increase professionalization of management	Extend quality management		Prepare institution for system accreditation

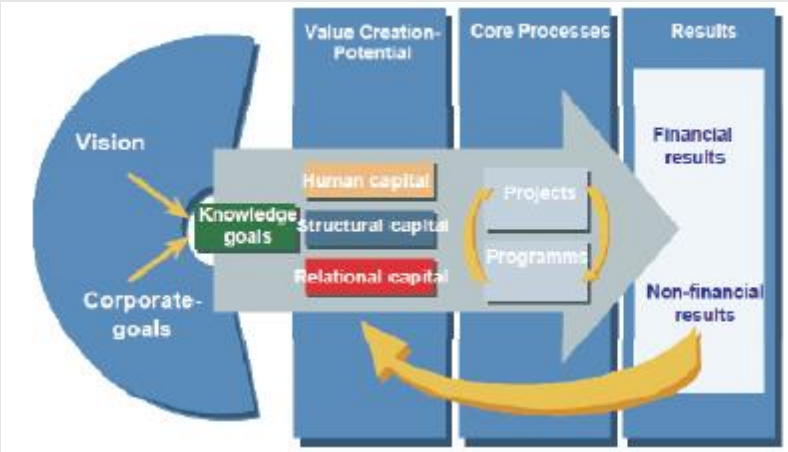
Source: Authors based on Lödding and Mosiek 2011, 5.

Source: Authors based on FH Münster n.d., Hochschulrektorenkonferenz n.d.

Example 15. Intellectual capital statements in Austria

One approach to transforming intangible assets into internal reporting and management procedures are intellectual capital statements (ICS), which have become widely used in Austria. The basic idea behind an ICS is to represent the value of institutions' intangible assets such as knowledge and competences, and thereby to complement financial reporting procedures. One model of ICS has been developed by the Austrian Research Center. In this model, intellectual capital is captured via quantitative and qualitative measures and a narrative part within the ICS. Taking the institution's overarching vision as a starting point, knowledge objectives and related measures (covering intellectual capital, results, and impact) are derived (see Figure 11**Error! Reference source not found.**). The ICS developed this way can then be used to provide external stakeholders with knowledge on the institution and to support internal management processes. In Austria, ICS have been made part of the yearly reporting duties of public higher education institutions to the Ministry for Education, Science and Culture.

Figure 11. The intellectual capital statement model of the Austrian Research Center



Source: Pircher and Pausits 2011, 13.

Source: Authors based on Pircher and Pausits 2011.

c) Good Governance 1: Cooperation and Participation

Cooperative and Participatory Approach & Transparency

A particularly marked change in internal governance arrangements that can be observed in many countries is a shift of powers away from bodies of academic self-governance toward leadership and management positions. As part of the development of institutions toward so-called "organizational actors" (Krücken 2011, 1), the position of leaders on different institutional levels such as rectors and deans has been strengthened in many (European) institutions at the expense of the powers of collegial academic decision-making bodies like the senate (Krücken 2011).

Recent shifts in rights and responsibilities among different bodies and actors lead to a fundamental challenge related to the design of internal governance arrangements: finding the right balance between the responsibility of collegial bodies and personal responsibility. It is indisputable that both elements need to be present in a good internal governance structure. The strategic development of institutions and an institution's efficiency and performance benefit from leaders who have the decision-making competences required to promote the development of a clear vision and support its implementation (cf. Hofmann 2005). Moreover,

important decisions for the strategic development of institutions that might be beyond an egalitarian consensus of all actors involved require personal responsibility. In addition to the general rationale behind involving academics in institutional governance as a precondition for academic freedom (see "3.2 b) Autonomy and Accountability"), and because they are the key experts in institutions, their involvement also promotes a shared vision across institutions, the appropriateness of institutional strategies, and ownership of development processes by institutional members (cf. OECD 2008).

In addition to the balance of the responsibility of collegial bodies and personal responsibility within the formal structures, much depends on the actual leadership behavior of institutional leaders. As has been observed for Germany (Püttmann 2013), even though the formal leadership roles of rectors have been strengthened, participatory leadership approaches including the involvement of internal stakeholders are still prevalent. Similarly, the increase in institutional autonomy in Germany has also promoted creativity related to the development of new, innovative participation instruments, that is, approaches other than the involvement of internal stakeholders via councils. Important in this respect are intense internal communication mechanisms, and the transparency of decision-making procedures, and of the rights and responsibilities of the governance bodies and actors.

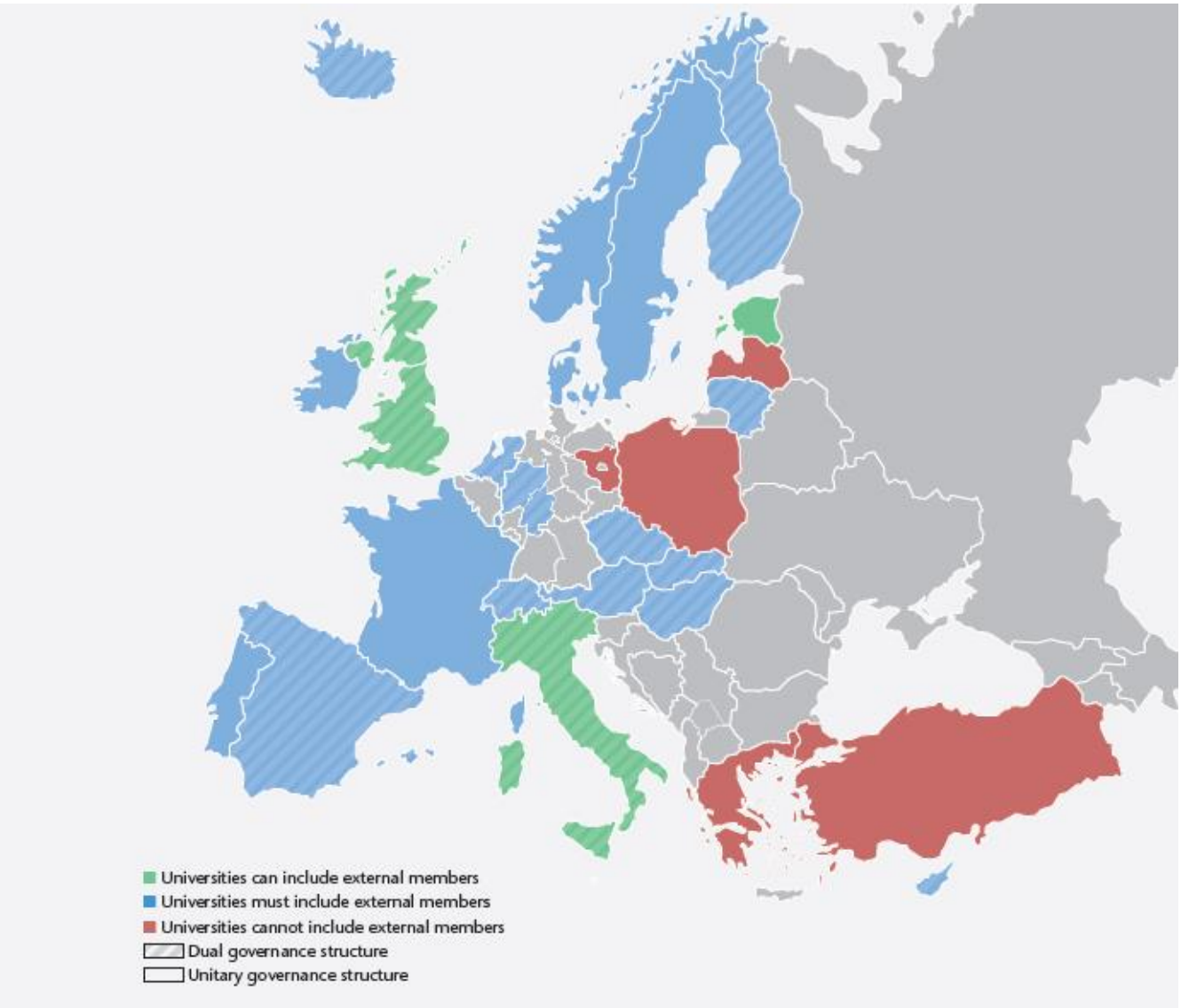
Stakeholder Involvement

Partly as a result of an intensified outward orientation of institutions, and partly induced by direct political influence, new ways of involving external stakeholders in the internal governance of higher education institutions have evolved in many countries. The attention given to the relationship between higher education institutions and their environment has increased significantly, including a proliferation of external stakeholders that are perceived to have a legitimate interest in the institutions' activities. Driven by the idea that a stronger involvement of representatives from society and the economy would increase the responsiveness of institutions, bring in new perspectives and expertise from different backgrounds, enhance accountability, and increase efficiency, governments in various countries have opted for allowing or even prescribing the involvement of external stakeholders in the internal governance of higher education institutions (cf. Antonowicz and Jongbloed 2015; OECD 2008). There also was an expectation that inputs from external stakeholders could help overcome internal blockades inside universities to set strategic priorities. The higher education institutions themselves have also sought new ways of integrating external stakeholders to promote the quality of their activities.

The establishment of governing boards comprising representatives from society and the economy has emerged as one of the most important forms of external stakeholder involvement. In 20 of the 28 European higher education systems investigated by the European University Association (EUA) in 2010 (Estermann and others 2011), institutions were required to include external stakeholders in the internal governance of their institution at the central level, and in three other systems institutions were able to choose to do so (see Figure 12). Leaving aside the differences among European higher education systems, these bodies—and therewith the external stakeholders they comprise—tend to be primarily involved in the determination of strategic directions for the development of institutions; the supervision of the institutional leadership, in some cases even appointing the highest official such as the rector; and budgetary issues (cf. de Boer and File 2009; Estermann and others 2011). That distinguishes these boards from the institutional leadership responsible for management-related tasks (see also "3.2 d) Good Governance 2: Differentiation of Functions and Distribution of Powers") and implies

that the external stakeholders' direct influence on academic matters tends to be limited and that there is no micromanagement of institutional processes (cf. OECD 2008).

Figure 12. Structure of governing bodies and inclusion of external members in Europe



Source: Estermann and others 2011, 27.

In the course of the increasing involvement of external stakeholders in governance boards, different challenges have become apparent that can limit their positive impact on the development of higher education institutions. A basic precondition for the abovementioned benefits from the involvement of external stakeholders to occur is that they actually take up their responsibilities. As experience has shown, this is not always the case, just as institutions can face difficulties in finding individuals that are sufficiently motivated and willing to invest the resources required (OECD 2008). Another key requirement is that external members of governing bodies act in the best interest of institutions and not as the representatives of any constituency or organization they might belong to. In addition to considering these challenges when dealing with external members in governing boards, institutions also have options to directly promote the benefits that can be derived

from this—at least as long as the related decisions can be made by institutions. To increase the range of new perspectives that external stakeholders bring to institutions, members of the respective academic diaspora who add experiences from other contexts and can promote internationalization efforts could, for instance, be included (cf. OECD 2008). To deal with potential conflicts of interest, institutions can establish codes of conduct. Addressing the right practical issues related to involving external members in internal governance is key for realizing benefits and avoiding pitfalls, as experience in Germany reveals (see Example 16).

Example 16. Experience with university councils in Germany

Experience with university councils staffed with external members in Germany reveals the importance of distinguishing between the formal legal structures and the practical handling of these bodies. Related to the functioning of university councils, there are legal structures determining (formally) their role, for example, related to strategic decisions or the appointment of the rector. Issues of practical management related to university councils have a major impact on their functioning as well. Based on experience in Germany, several of these issues can be identified:

- Determining requirements for council members (for example, their knowledge of the system, expertise, and motivation) and for the composition of the council (for example, combining different backgrounds or including alumni)
- Choosing the chairperson carefully (for example, related to his or her time available or relationship with the institution's leadership)
- Preparing council members for their work (for example, providing information on legislation and rules, and on the steering approach of the institution)
- Creating adequate reporting systems to inform council members, but also to inform the university members about the work of the council
- Involving the council early enough in important matters
- Providing the council with the infrastructure required for its functioning
- Setting clear rules for how council members interact with members of the university and how to deal with conflicts of interest.

These (selected) aspects merit being taken into account by institutions that want to improve the management of university councils and, thereby, increase the benefits derived from them.

Source: Authors based on Meyer-Guckel and others (2010).

Involving external stakeholders in internal governance in ways other than governing boards can be found in different higher education institutions as well. In addition to an involvement in governance on the central level, external stakeholders can also contribute to lower-level activities. One example is the development and improvement of programs via involvement in continuous advisory structures for programs (see Example 17), where, also promoted by regulations concerning quality assurance, civil society, and private sector representatives have been involved more frequently in recent years.

Example 17. The involvement of external stakeholders in program development and improvement at the Mittelhessen University of Applied Sciences

The possible scope of external stakeholder involvement in the development and implementation of higher education programs is exemplified by work-integrated programs in Germany, like the ones offered by the Mittelhessen University of Applied Sciences (UAS). To align its programs more closely with the demands of employers in the region, Mittelhessen UAS developed work-integrated programs, which are characterized by a combination of phases of study at the higher education institution and phases of work at the companies participating in the program. Mittelhessen UAS and the employers work together on different levels for the development, implementation, and improvement of these programs.

The basic structure of all programs was developed jointly, including the regional chambers. To implement the programs, a special center at the institution was established, that receives advice from a board staffed with representatives of Mittelhessen UAS and the companies participating in the work-integrated programs. The involvement of both parties in this board ensures a connection between the theoretical and practical parts of the programs as well as up-to-date study content in line with the employers' requirements. This connection is reinforced by boards on lower levels responsible for certain program fields, which deal with, among other things, the continuous development of programs, quality assurance processes, and knowledge transfer activities. There is an additional connection between employers and programs in that practitioners from the companies are directly involved in teaching activities.

Source: Authors based on the website of StudiumPlus; http://www.studiumplus.de/wps/splus/home/studiumplus/.

Not only has the way in which external stakeholders are integrated into the internal governance of higher education institutions changed, but so has the involvement of internal stakeholders. The changing ways of internal stakeholder involvement have to be seen against the backdrop of the broader change of the growing importance of managerial self-governance and personal responsibility, and a declining (formal) influence of academic self-governance in many countries and institutions (cf. OECD 2008). This does not imply that their influence vanished altogether. What can be observed, however, is a focus of their decision-making powers on selected matters, for example, academic matters (as opposed to more administrative matters) in the case of academics, or student services in the case of students (cf. OECD 2008).

Decision-making powers on selected matters are only one example of a reinvigorated focus on the importance of students as internal stakeholders of higher education institutions. In addition to the influence students have gained as (paying) customers of higher education institutions in several countries (in some cases they are directly involved in decisions on how fees are spent), also other ways of student involvement in higher education governance are considered. As part of the Bologna Process, the Prague Communiqué (2001) states that the ministers of Bologna Process signatory countries "affirmed that students should participate in and influence the organization and content of education at universities and other higher education institutions," and the Berlin Communiqué (2003) states that "[s]tudents are full partners in higher education governance." Furthermore, there is a twofold involvement of students in quality assurance processes both as clients of higher education institutions in internal quality assurance processes (for example, via student surveys) and as experts on their own

affairs in external quality assurance processes, as determined as a standard by the ESG (ENQA 2015), and internal quality assurance processes.

d) Good Governance 2: Differentiation of Functions and Distribution of Powers

Differentiation of Functions—Relationship between Strategic and Management Tasks

The transfer of responsibilities from governments to increasingly autonomous institutions led to a growing number of tasks on the institutional level, which induced a separation of more or less clearly distinguished fields of activities within institutions. Steering functions formerly performed by ministries or similar system-level governing bodies, ranging from study-program-related to human resource decisions, have been more and more shifted to higher education institutions themselves. This has led to the emergence of different sets of tasks within the internal governance of institutions (cf. Eurydice 2008; Hofmann 2005), and in particular to a separation of strategic and management tasks.

Separating strategic and management tasks is beneficial for various reasons, but needs to be framed by a suitable balance of powers and adequate checks and balances. Assigning strategic and management tasks to different bodies and actors leads to greater effectiveness and efficiency. In the case of strategic decisions, for instance, bodies responsible for a wider range of matters including management-related ones, such as senates or faculty councils, get too easily mired in dealing with issues of minor importance at the expense of important strategic decisions requiring intense discussion (cf. Hofmann 2005). With respect to management tasks, what is particularly important in most cases is the speed with which decisions can be made, so that institutions remain flexible and capable of reacting quickly to unforeseen challenges. A sound separation of strategic and management tasks could, for example, lead to a decision-making constellation where a collegial body determines basic principles for the allocation of resources, but where specific allocation decisions based on those principles are made by the rectorate or deans.

Changing task structures within higher education institutions has led to the development of a tripartite structure separating overall strategic steering responsibilities, day-to-day management, and decision making on academic matters in several European countries. A trend observed in Europe is the development of a governance arrangement on the central level of higher education institutions consisting of an executive body, for example, the rectorate; a collegial academic body, for example, a senate; and an advisory or supervisory board (comprising external stakeholders) that is the decision-making body responsible for strategic institutional development (cf. Eurydice 2008). This arrangement is an appropriate way of accounting for several of the challenges that have to be solved via the design of internal governance structures, including finding a balance between the responsibility of collegial bodies and personal responsibility, assigning different sets of tasks to different bodies and actors, and securing the effectiveness and efficiency of governance processes. The major challenge for institutions related to designing their governance structures in this way is to achieve efficiency and to secure adequate checks and balances among the three bodies, which depends on the detailed arrangement of their competences. One part of these checks and balances is that the rights and responsibilities of bodies and actors are well defined and clear to institutional members (cf. Hofmann 2005). In addition, adequate relations among the bodies can also be supported by instruments such as codes of good governance, like the one developed in the German federal state of North Rhine-Westphalia (see Example 18).

Example 18. Principles of good governance in North Rhine-Westphalia

Striving to formulate a basic framework for good governance practices within higher education institutions, the chairpersons of university councils in the German federal state of North Rhine-Westphalia (NRW) developed a set of principles. The basic idea behind the principles is to complement the legal provisions covering the relationship between the federal state and higher education institutions, and the relations between the institutions' internal governing bodies with principles of good governance of higher education institutions developed jointly by the institutions and the ministry. The principles developed this way in NRW cover five basic issues:

- a trustful cooperation among all actors, that is, ministry representatives, university councils, rectorate, and senate
- the responsibilities and working principles of university councils
- the responsibilities of the chairpersons of university councils as those vested with the ministry's function as employer of the rectorate
- potential conflicts of interest of members of the university councils and the rectorate
- transparency related to the work of university councils.

Source: Authors based on KVHU NRW 2015.

Distribution of Powers

The general developments in internal governance discussed above have led to a change of profiles of different positions and bodies, especially of that of the higher education institutions' executive leadership (rectorate). Whereas the governance of higher education institutions in Europe was long characterized by a separation of powers between ministries and academic collegial bodies, several of the powers of these two sides have been shifted to the rectors[13] (cf. Eurydice 2008; see Example 19), to enhance the responsiveness and strategic development capacities of institutions, among other reasons. Responsibilities of rectors in many countries include strategic planning, budgeting, organizational issues, and the general management of institutions. In these functions, rectors are usually supported by a wider group of individuals within the rectorate, whose composition has also undergone several changes in the recent past. In addition to the vice-rectors, a function that has been integrated in this body in many cases is that of the head of administration. In addition, the areas of responsibility directly assigned to individuals in the rectorate have become more diverse (Hofmann 2005). In the United Kingdom (Middlehurst 2004), for instance, it is no longer only the "traditional" activities and support services such as teaching and learning, research, libraries, and estate that are covered by the different positions within the executive body, but also others like knowledge transfer, community relations, and human resources.

[13] In the following, the term "rector" and related terms like "rectorate" are used to refer to the executive head and his or her team, even though different terms such as "president" or "vice-chancellor" are used in some countries.

Example 19. Internal governance arrangements in Ireland

Various higher education reforms in Ireland have led to internal governance arrangements that conform to several of the general trends also observed in other countries. On the system level, overall responsibility for higher education lies with the Department of Education and Skills. The major sector governing body, however, is the Higher Education Authority, which possesses far-reaching advisory functions, acts as the funding authority for higher education institutions, and oversees the institutions' strategies and quality assurance procedures. On the institutional level, the main governance actors are:

- the senior decision-making body (with a majority of external stakeholders), which approves proposals by the executive team on the direction of institutional development, strategy, funding allocations, internal mergers, and chairs and professorships; many of these competences have been shifted from the committee of academic staff to this body
- the executive team (led by the rector), among others responsible especially for proposals related to the institution's future development
- the deans, responsible for many academic matters (for example, degree programs and research priorities)
- the committee of academic staff, approving the decisions by the deans.

Source: Authors based on de Boer and others (2010).

Changing responsibilities of the institutional leadership have been accompanied by new modes of selecting rectors.[14] There are four basic ways rectors are selected (Estermann and others 2011):

- The rector is *elected* by a (large) electoral body that comprises representatives of the different groups of internal stakeholders
- The rector is *elected* by a collegial governing body (for example, the senate)
- The rector is *appointed* by an advisory or supervisory board (for example, a governance board comprising external stakeholders)
- The rector is *appointed* jointly by the collegial governing body and the advisory or supervisory board.

In some countries, a (formal) validation of the outcome of the selection process is required, for example, by the ministry responsible for higher education. In recent years, different European countries, among others Denmark, Finland, the Netherlands, Scotland, and some German states, have moved from electing rectors to having them appointed by governance boards. Both procedures, election and appointment, have certain advantages. Democratic elections give institutional members a say in who heads their institution, and can increase the acceptance of rectors and the policies they initiate. However, they often are afraid of taking tough decisions, because they later will have to return to their previous (professorial) positions. Having the rector appointed by governance boards, however, can promote candidates who go beyond an egalitarian consensus reflecting the

[14] Issues related to academic selection and promotion will be covered in greater detail in the second phase of the project. Therefore, only a brief overview on the selection of rectors is presented in this report.

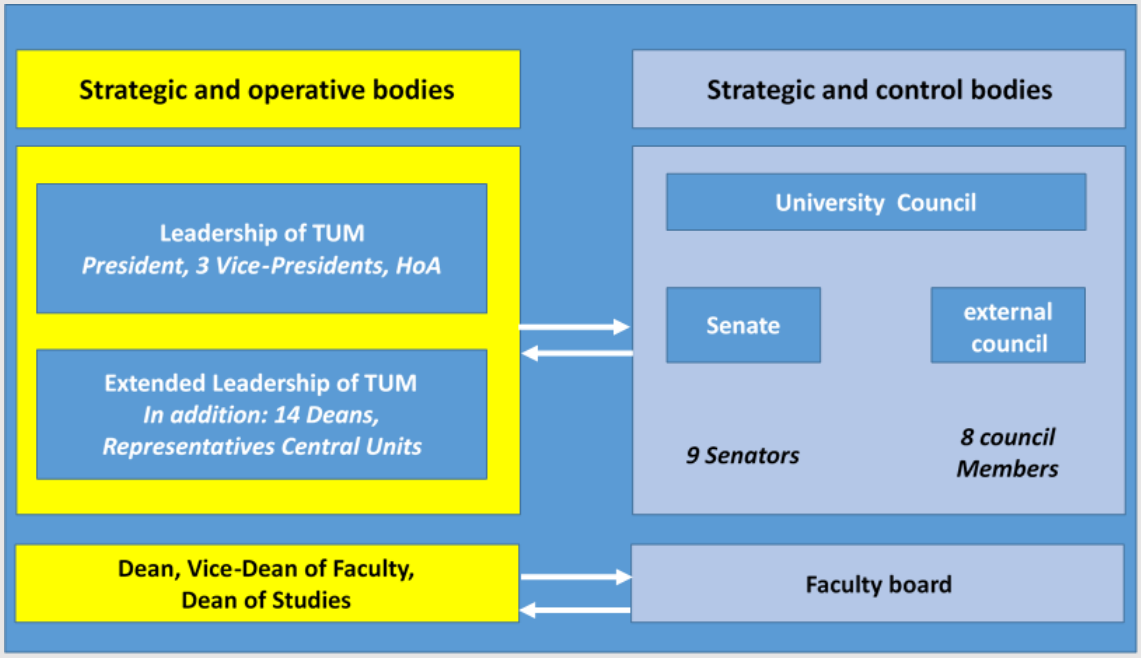
institutional members' partial interests. Such a candidate can be particularly important in times of major changes, which require decisive action and leadership. One possibility to combine the strengths of those two approaches is to involve the governance board and a collegial body, such as the senate, in the selection process, for example, by granting the senate the right to approve candidates selected by the governance board. In some countries/institutions, the responsible body (either the senate or the council) appoints a search committee that can also use "head-hunters" to identify external candidates (Kolster and others 2016).

Designing internal governance structures and processes in a way that they are efficient and do not overburden the institutions' members is one of the most important and challenging tasks for institutions. The design of governance arrangements should also lead to coherent institutional practices, among others related to a correspondence of different types of power and responsibility (cf. Hofmann 2005), and well-functioning relations among all bodies and actors involved. There are two major issues in this respect. First, the number of governance bodies and actors should be limited, especially of those that have only an advisory function (cf. Hofmann 2005). In the case of the Technical University (TU) Munich, Germany, for example, most senate-related internal councils and boards have been abolished for exactly that reason (see Example 20). Second, the size of governance bodies should allow for efficiency, especially related to the time needed for reaching decisions (cf. Hofmann 2005). The overarching target for institutions should be streamlined governance structures and processes that lead to decisions of a sufficient quality in an efficient manner.

Example 20. The internal governance arrangements of the Technical University Munich, Germany

Within the internal governance structures of the Technical University (TU) Munich, there is a clear and efficient separation among different types of responsibilities and tasks. Under the internal governance arrangements of the TU Munich, Germany (see Figure 13), supervision and control tasks are performed by a university council, which itself comprises two bodies: the senate (consisting of nine members from within the institution) and the external council (consisting of eight external members). A special feature of the structure is that when it was introduced, most senate-related councils were abolished. With respect to the strategic and operative tasks, the highest decision-making body consists of the president, three vice-presidents, and the head of administration. For some matters, this body is extended by also involving the deans and the representatives of the central units. This design ensures a clear separation of decision-making and supervisory tasks in the internal governance arrangements of the TU Munich. Moreover, structures are lean for a clear leadership, without neglecting the relevance of a broader involvement of the institution's units, which can be realized via the extended leadership body involving, among others, the deans.

Figure 13. Internal governance structures of the Technical University Munich



There have been changes in governance structures on lower institutional levels that are similar to the changes on the central level. There is a tendency of lower-level governance structures to resemble those on higher institutional levels (cf. Eurydice 2008). This is also true for the general changes in governance structures. The position of dean has in many institutions evolved into an executive position, with a more managerial portfolio of activities comparable to that of rectors (Eurydice 2008). Deans have also become more involved in steering and management activities on the central level (Sursock 2011; see also Example 20).

A general discussion emerging from the more recent changes in governance structures concerns the adequate balance between powers on the central and lower institutional levels, that is, the adequate degree of

devolution. Issues comparable to those already discussed with respect to the balance between the responsibility of collegial bodies and personal responsibility apply here as well, although in a slightly different form (cf. Hofmann 2005). There is, on the one hand, the need for a strategic framework for institutional development and for adequate competences on the central level to promote the implementation of related objectives. On the other hand, many decisions related to specific activities benefit from being made by those actors closest to the issues. In addition, as part of the overarching shift of governance arrangements centered on autonomy, many of the arguments in favor of institutional autonomy apply to units as well, such as the importance of units that can proactively take up incentives provided by internal governance and funding arrangements and design their activities accordingly in the most efficient way (see Example 21).

Example 21. Devolution at the Free University of Berlin, Germany

At the Free University (FU) of Berlin, there has been a consistent allocation of competences to different institutional levels. In the course of the introduction of a performance-oriented funding system in 1992, a new approach toward internal governance was introduced as well. The basic principle of this approach is that the responsibilities for budgets, decision making, and the implementation of decisions should be assigned to the units, which are also responsible for the outcomes of activities. This principle is supposed to establish a link between the interests of units and the institution as a whole, and grant sufficient autonomy to units. In addition, the steady increase of the performance-based allocation component (currently 30 percent of the faculties' budgets) has been accompanied by a gradual increase in the devolution of competences. The gradual increase was supposed to ensure sufficient experience with the related competences before proceeding to the next level of devolution.

Source: Authors based on FU Berlin n.d.

Recruitment and Staff Development

Changes in governance arrangements have also reached the level of individual managers, where new activity profiles together with new skill demands have emerged (cf. Krücken 2011). Many internal governance and management positions have previously been filled with academics who transferred to these positions from their academic duties for limited periods of time only or fulfilled their duties part time. In line with the shift toward more managerial governance approaches, a trend toward more full-time management positions that require various new skills has emerged. These skills include, among others, technical knowledge and competences needed for using newly introduced strategic steering instruments, and general leadership and management skills. Many academics who switched to those more managerial positions in the past did not have adequate managerial skills. This has led to the establishment of training programs in many countries that explicitly target this clientele and the skills they need (see Example 22)—and which institutions can revert to for improving the functioning of their internal governance arrangements.

Example 22. Training programs for higher education leaders and managers

As a result of changing skill requirements in the sector, various training programs for higher education leaders and managers have been established in different countries. These programs cover different types of staff—administrative staff, unit-level academic leaders, and different positions within the central-level leadership—and are offered by a variety of institutions. Selected examples for these programs from different countries are:

- tertiary education management graduate courses at the LH Martin Institute, Australia, which address individuals on the middle to senior management level[a]
- master's degree courses in education management and higher education and science management at the Donau-University Krems, Austria[b]
- a study program in administration and management of higher education of the University of Tampere, Finland,[c] targeting, among others, higher education administrators
- a training course for vice-rectors and vice-presidents developed jointly by the German Rectors' Conference and the Centre for Higher Education, Germany,[d] which focuses on leadership skill development of newly appointed higher education leaders
- a Master of Business Administration in higher education and science management for middle management offered by the Osnabrück University of Applied Sciences, Germany[e]
- a Master of Business Administration in academic management aimed at individuals who want to pursue an academic career and improve their related management skills at the University of Basel[f]
- a variety of programs for different types of higher education leaders and managers offered by the Leadership Foundation for Higher Education, United Kingdom.[g]

Note: a. http://www.lhmartininstitute.edu.au/postgraduate-award-programs/183-tertiary-education-management-graduate-courses.
b. http://www.donau-uni.ac.at/de/department/wbbm/bereich/weiterbildungsmanagement/index.php.
c. http://www.uta.fi/jkk/heg/en/studies/non-degree-studies/KOHA.html
d. http://www.che.de/cms/?getObject=250&getLang=de&strAction=programm&PK_Veranstaltungen=415
e. https://www.hs-osnabrueck.de/de/studium/studienangebot/master/hochschul-und-wissenschaftsmanagement-mba/.
f. https://advancedstudies.unibas.ch/studienangebot/kurs/mba-in-academic-management-19698.
g. https://www.lfhe.ac.uk/en/programmes-events/index.cfm.

There has also been a change in the skills demanded of administrative staff. This change has to be seen against the backdrop of a general shift from a bureaucratic approach toward administrative tasks, with staff members as regulatory administrators, toward a profile of service-oriented managers. Service-oriented managers are managers capable of creating and using incentive systems for steering purposes, who oversee the entire steering environment, and who enable academic and administrative staff to provide quality services. The overall change has also led to the development of an entirely new profession, that of higher education managers in areas of quality assurance, institutional research, internationalization, and so forth (cf. Krücken 2011), in contrast with the classic administrator. Again, training programs for this particular clientele have been established in many countries (see Example 22).

In addition to the different types of training programs mentioned above, approaches of comprehensive staff development and human resource development strategies have become an important topic of discussion in many higher education institutions. To cope with the recent and potential future changes, developing comprehensive, flexible approaches toward the development of different staff categories and their skills, competences, and training, and embedding these approaches into internal governance structures, has emerged as an important task for higher education institutions.

3.3 Requirements for "Good" Internal Governance Arrangements

As discussed in detail above, there can be no one-size-fits-all solution for designing internal governance arrangements. Higher education systems have different histories, traditions and values, regulatory frameworks, and overall approaches toward governance. Similarly, institutions exhibit particular historical traits, and traditions and values, and differ in, among other things, size, composition, and profile. Both types of particularities influence which way of designing internal governance structures and processes would be best, so there cannot be the one and only best approach. This leads to the challenge for institutions to find their own ways in designing internal governance arrangements in line with the characteristics of their institution and the framework conditions they face.

That is why in the following, rather than providing a complete proposal for the "best internal governance arrangements," an outlook will be provided on general normative requirements for "good" internal governance arrangements that offers a broad framework for the assessment of such arrangements. These requirements are based on the discussion above and take into account:

- international, particularly European, experiences, good practices, and standards for designing internal governance structures and processes derived from findings from the recent research literature
- the World Bank team members' professional expertise in the field.

Using these sources, the team has identified four (A–D) major blocks of requirements (see Table 7), which will be described in greater detail below.

Table 7. General requirements for "good" internal governance arrangements

A. Strategic development and governance	A.1. Having in place clear and precise institutional strategies aligned with institutional strengths/weaknesses and their environment
	A.2. Having in place action plans that structure and support the strategy implementation process
	A.3. Basing strategies on in-depth analyses and involving internal stakeholders in the strategy development process
	A.4. Developing measures for the implementation of strategies
	A.5. Monitoring the strategy implementation process and adapting instruments/objectives if necessary
	A.6. Securing and monitoring fitness for purpose of governance structures
	A.7. Accompanying institutional developments with change management
B. Autonomy and accountability	B.1. Securing academic freedom
	B.2. Maintaining academic integrity
	B.3. Anchoring accountability measures and quality assurance in governance structures
	B.4. Establishing adequate monitoring procedures and management information systems
C. Good governance 1: Cooperation and participation	C.1. Balancing responsibility of collegial bodies and personal responsibility and maintaining a cooperative approach
	C.2. Involving external stakeholders in institutional governance and securing their proper conduct
	C.3. Developing appropriate ways of involving internal stakeholders on different institutional levels
D. Good governance 2: Differentiation of functions and distribution of powers	D.1. Separating strategic and management tasks framed by checks and balances
	D.2. Equipping central leadership with sufficient and adequate competences
	D.3. Securing efficiency and transparency of governance structures
	D.4. Establishing an adequate level of devolution
	D.5. Ensuring staff development and developing human resource strategies

A. Strategic development and governance

Determining directions for the future development of higher education institutions is among the key functions of internal governance. This entails the development of an institutional mission and sound strategic objectives, as well as strategic planning at lower institutional levels. Serving as the main point of reference for institutions' strategic planning activities, institutional strategies and action plans have to be clear and precise so that they can effectively guide the activities of institutional units and members.

⇒ ***Requirement A.1.:*** **Having in place clear and precise institutional strategies aligned with institutional strengths/weaknesses and their environment**

⇒ ***Requirement A.2.:*** **Having in place action plans that structure and support the strategy implementation process**

To formulate strategies that are fit to underpin strategic steering activities, the way in which they are developed is key. Adapting strategies to the circumstances and characteristics of institutions requires an in-depth knowledge of their activities and environment. The fit between strategies and institutions can also be promoted by the involvement of a wider range of institutional members—as well as of representatives from the institutional environment (external stakeholders)—in the strategy development process.

⇒ ***Requirement A.3.:*** **Basing strategies on in-depth analyses and involving internal stakeholders in the strategy development process**

Following the determination of strategic directions, their implementation must be supported via day-to-day management, which requires the provision of suitable instruments. Complementing the processes of strategy development and implementation, a close monitoring of the implementation process and ensuing actions are required for successful strategic development. In addition to determining and implementing strategies, governance must strive to regularly monitor the degree of goal attainment and performance. Governance structures should also offer means for effective managerial interventions to adjust detected discrepancies between the strategies and targets set and actual performance. More generally, objectives need to be reassessed regularly to account for changing circumstances.

⇒ ***Requirement A.4.:*** **Developing measures for the implementation of strategies**

⇒ ***Requirement A.5.:*** **Monitoring the strategy implementation process and adapting instruments/objectives if necessary**

Structures and processes of governance are not an end in themselves. They serve the strategic development of a certain institutional profile within the framework conditions given by the higher education system, including national policy goals, and institutional characteristics and visions. This makes their fitness for purpose the overarching objective for their design. Each higher education institution has its own history, traditions, and values. Each higher education system exhibits particular features as well. Given their influence on the functioning and outcomes of governance, all of these particularities can be relevant for the determination of governance structures and processes. In the face of continuous changes in the environment of institutions and shifts in strategic objectives, governance arrangements should remain adaptive and flexible, and should be able

to generate innovative solutions. These adaptions—as well as strategy development, implementation, and adjustment—require institutional leadership to guide, involve, and motivate (most of) the organization with a view toward moving into new directions.

⇒ ***Requirement A.6.:*** **Securing and monitoring fitness for purpose of governance structures**

⇒ ***Requirement A.7.:*** **Accompanying institutional developments with change management**

B. Autonomy and accountability

The freedom of teaching and research lies at the heart of higher education. Securing it within reasonable limits is among the functions that adequate internal governance arrangements need to fulfill. Academic freedom is a crucial precondition for higher education institutions and systems to function properly. Securing academic freedom is the responsibility of all higher education stakeholders, including higher education institutions. This does not imply, however, that academics, managers, or leaders can do whatever they themselves deem right.

⇒ ***Requirement B.1.:*** **Securing academic freedom**

In the same way that institutions are responsible for securing academic freedom, they also need to ensure that that freedom is not misused by academics. Preventing and dealing with academic misconduct is an important component of institutions' attempts to enhance accountability toward their environment and a means to prevent harm to the society and science in general.

⇒ ***Requirement B.2.:*** **Maintaining academic integrity**

Especially within a framework of enhanced autonomy, institutions need to be accountable to supervising entities. Hence, it should be ensured via internal governance that institutions satisfy the supervising entities' request for accountability, especially via suitable quality assurance mechanisms.

⇒ ***Requirement B.3.:*** **Anchoring accountability measures and quality assurance in governance structures**

Strategic steering activities and new accountability requirements lead to a growing demand for data and information on internal processes. In parallel to an increasing orientation toward evidence-based decision making and the outcomes of activities, institutions need better knowledge of their inner processes, also to prove to their environment the scope and quality of their activities. This requires a sufficient quantity and quality of data derived from specific information and reporting instruments, as well as systematic approaches of information and knowledge management.

⇒ ***Requirement B.3.:*** **Establishing adequate monitoring procedures and management information systems**

C. Good governance 1: Cooperation and participation

The strategic development of institutions requires both the responsibility of collegial bodies and personal responsibility. The strategic development of institutions and an institution's efficiency and performance benefit

from leaders who are capable of promoting the development of a clear vision and supporting its implementation. Important decisions for the strategic development of institutions that might be beyond an egalitarian consensus of all actors involved require personal responsibility. In addition to the general rationale behind involving academics in institutional governance as a precondition for academic freedom, and as they are the key experts in higher education institutions, their involvement also promotes a shared vision across institutions, the appropriateness of institutional strategies, and ownership of development processes by institutional members. More generally, bringing together diverse, sometimes conflicting interests requires cooperative and participative approaches that serve as a basis for effective negotiation processes on all institutional levels.

⇒ ***Requirement C.1.:*** **Balancing responsibility of collegial bodies and personal responsibility maintaining a cooperative approach**

In the face of the various purposes of higher education, there is a wide range of stakeholders with a legitimate interest in the activities of higher education institutions. These comprise external stakeholders such as representatives of society and the economy and employers, as well as internal stakeholders such as academics, administrators, and students. An appropriate involvement of the diversity of stakeholders in internal governance increases an institution's ability to account for all stakeholders' interests and its responsiveness to external demands. Even though they are supposed to represent the interests of their constituencies, all actors involved in governance should first and foremost act in the best interest of the institution.

⇒ ***Requirement C.2.:*** **Involving external stakeholders in institutional governance and securing their proper conduct**

⇒ ***Requirement C.3.:*** **Developing appropriate ways of involving internal stakeholders on different institutional levels**

D. Good governance 2: Differentiation of functions and distribution of powers

The determination of strategic directions and their implementations on a day-to-day basis are separate tasks. This has to be reflected in the governance structures so that both tasks can be carried out effectively. In addition to assigning these tasks to different bodies and actors, the composition of the bodies and the selection of individual actors should be aligned with the respective task. To simultaneously ensure the fairness, justice, and transparency of processes of governance, adequate checks and balances to protect these values should be in place.

⇒ ***Requirement D.1.:*** **Separating strategic and management tasks framed by checks and balances**

The implementation of strategies that give direction to an entire institution requires a central management that has sufficient powers to actually promote such a development.

⇒ ***Requirement D.2.:*** **Equipping central leadership with sufficient and adequate competences**

In addition to being effective, governance arrangements should not overburden the administrative and academic staff of institutions. Their engagement in internal governance and related duties such as reporting

procedures should not consume too much time and or too many resources. **And the design of internal governance structures and processes must be clear to all stakeholders involved.** The rights and responsibilities of different bodies and actors should be well defined and clear. A culture of transparency also implies that decision-making processes at all stages follow an adequate level of openness.

⇒ ***Requirement D.3.:*** **Securing efficiency and transparency of governance structures**

Notwithstanding the need for an overarching strategic framework and a leadership equipped with sufficient competences, decisions on implementation benefit from being made by those actors best positioned to develop adequate solutions. Given that these actors are in many cases the ones closest to the issues at hand, decision-making powers should be devolved to lower institutional levels as long as this does not impede the overall strategic development of institutions.

⇒ ***Requirement D.4.:*** **Establishing an adequate level of devolution**

Internal governance arrangements need to offer support for exercising academic and administrative leadership at all levels. This includes the targeted development and promotion of leadership and management skills, also via broader approaches of systematic human resource development and professional training.

⇒ ***Requirement D.5.:*** **Ensuring staff development and developing human resource strategies**

4 General Summary

Internal funding and governance are key components of the strategic steering capacities of higher education institutions. In relation to changes of funding models and governance approaches on the system level, various developments within institutions can be observed for both fields in the more recent past. In many countries, among them most European ones, a general shift toward autonomy-centered, output-oriented steering approaches by governments has confronted higher education institutions with the challenge of adapting their internal funding models and governance arrangements accordingly. Despite differences among countries and institutions related to their particular histories and characteristics, more general lines of development can be identified, as can a range of good practices of how institutions can react to emerging challenges.

Public HEIs are expected to meet policy goals in a cost-effective way throughout European higher education systems. Because internal allocation models are designed to incentivize both revenue growth and cost control, set targets, and fund strategic priorities, they play a key role in HEI attempts to meet this expectation. Well-functioning internal funding models can align with external revenue streams and reflect national goals, thereby increasing the sufficient incentive compatibility between institutional directions and policy goals. For that reason, system-level funding, particularly performance-based funding, has been regarded as an important force in shaping the internal allocation models of HEIs.

At the same time, internal funding models commonly take into account institutional strategies and profiles, including those appearing at the level of units (faculties, schools, institutes, departments). International trends show that financial autonomy of institutions can be strengthened through an increased level of resource diversification. Generation of additional income through multiple new or existing funding sources contributes to balancing the income structure of the institution and reduces the resource dependency of institutions on any single source of financing, including state funding.

In many countries, unit-level autonomy is considered a particularly important prerequisite for sustainable strategic development of the whole institution. The main rationale behind higher autonomy of units is that it is believed to support responsibility, transparency, and entrepreneurial thinking. Autonomous units are considered to be more responsive to strategic initiatives and in generating, deploying, and allocating their own income streams in a way that supports their cost-effective operation. The current international trend is to favor bigger unit sizes, with a high level of operative and financial autonomy. Sufficient size of the units allow them to develop their own specific objectives under the broader framework of an institutional strategy.

Many European institutions use block grants and formula funding. Block grants and formula funding support a decentralized budgeting approach by allowing greater freedom for units in their financial decisions. At the same time, funding formulas are expected to lead to increased transparency and legitimization of allocation decisions. In particular, by offering incentives that link institutional goals and resource allocation, formula funding supports stronger performance orientation.

At the same time, increased unit-level autonomy often needs a counterbalance, which can be achieved through the creation and effective use of strategic central funds (reserves). Allocations of these funds are often based on discretionary decision-making processes on the part of the institution’s central leadership.

In several countries, performance-based funding is allocated internally primarily to units, while staff salary schemes including a wider performance component are used in parallel. Keeping a right balance between allocations to units and individuals is important. When funding is channeled to the unit level to support research and teaching, monetary incentives can simultaneously facilitate development in those areas, thereby also benefiting individuals.

Institutions rarely have a pure budgeting model relying on a single allocation principle. Rather, institutions rely on hybrid models which combine elements from several allocation principles. Most institutions use a budgeting mix that includes input- and output-based funding formulas plus some discretionary funding that can be used to achieve particular priorities or address financial problems. Nevertheless, most institutions seem to seek a balanced structure in the light of functions of the three-pillar model, that is, between "basic funding" offering stability (Pillar 1), performance-based funding fostering productivity (Pillar 2), and profile/innovation-oriented funding promoting change (Pillar 3). Internal target agreements are often used to bring further balance between funding streams allocated under the three pillars and goal orientation toward the strategic objectives of the institution and units.

Internal governance arrangements can be considered the backbone of every higher education institution's capacity for internal coordination and strategic development. Major developments in this field have been triggered by changing approaches toward the governance of higher education systems, namely a shift toward more indirect forms of steering higher education systems. These approaches center on the autonomy of higher education institutions, framed by incentive mechanisms installed to gear institutions toward implementing policy objectives, and by enhanced accountability and quality assurance mechanisms. Adding to this are growing challenges for institutions to thrive in increasingly volatile, competitive environments. As a result, institutions experience increasing pressure to develop capacities for acting strategically as integrated actors—a direction toward which many institutions have developed.

Institutions have increased their engagement in determining directions for their future development. Institutional strategies and action plans have become the main instruments for this purpose, requiring a certain degree of clarity and preciseness in order to fulfill their function properly. Promoting the overall quality of strategies and their impact, strategy development processes, including a thorough analysis of institutional strengths and weaknesses and their relation with the institutional environment, as well as the involvement of internal stakeholders, have emerged as particularly important. In addition, increasing attention has been given to the importance of the processes of strategy implementation and monitoring the implementation progress. Institutions have also become engaged in increasing the fitness for purpose of their internal governance arrangements, especially related to strategic development capacities.

Institutional activities can also be observed with respect to academic freedom and integrity, as well as accountability. Institutions have established measures for preventing and dealing with academic misconduct, as an important component of their attempts to enhance accountability toward their environment. Under the heading of accountability, especially quality assurance processes have gained in importance. Quality assurance within institutions, in particular if seen as part of a broader "quality culture," has become connected to internal governance in various ways. In addition, information and data needs resulting from strategic steering activities and new accountability requirements have received more focus, for example, via new reporting and information instruments.

Questions concerning internal cooperation and participation in relation to strategic development capacities have emerged under the heading of good internal governance. Recent shifts in rights and responsibilities among different bodies and actors in institutions lead to a fundamental challenge related to the design of internal governance arrangements: finding the right balance between the responsibility of collegial bodies and personal responsibility. As part of the same overarching change of internal governance approaches, new ways of involving external stakeholders in the internal governance of higher education institutions have evolved in many countries. Moreover, not only has the way in which external stakeholders are integrated into internal governance changed, but also the involvement of internal stakeholders.

Good internal governance also concerns the differentiation of functions and the distribution of powers within institutions. The transfer of responsibilities from governments to increasingly autonomous institutions leads to a growing number of tasks on the institutional level, which induced a separation of more or less clearly distinguished fields of activities within institutions, namely strategic and management tasks. Separating these tasks is beneficial for various reasons, but needs to be framed by a suitable balance of powers and adequate checks and balances. Another discussion emerging from the more recent changes in governance structures concerns the adequate balance between powers on the central and lower institutional levels, that is, the adequate degree of devolution. Given the pronounced developments of internal governance arrangements, designing internal governance structures and processes in a way that they are efficient and do not overburden the institutions' members has become an important and challenging task for institutions. Changes in governance arrangements have also reached the level of the individual, where new activity profiles together with new skill demands emerged. This is true for both leadership and management staff and has induced the establishment of different types of staff development initiatives, even though only rarely of comprehensive staff development and human resource development strategies.

Based on the analysis of the aforementioned developments and good institutional practices in reacting to them, two sets of requirements have been developed, one for good internal funding models and one for good internal governance arrangements. These will be taken up by a second report under the current higher education project to assess the status quo of internal funding and governance in Latvian higher education institutions. Together with the outcomes of the status quo assessment, the outcomes of the report at hand will serve as the basis for recommendations for the further development of internal funding and governance by Latvian higher education institutions to be presented in spring 2017.

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