



# Final Report of the Study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative

(Volume I)

Ben Jongbloed  
Cécile McGrath  
Harry de Boer  
Ariane de Gayardon

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Higher Education Unit

Contact: Unit B1 - Higher Education

E-mail: [EAC-UNITE-B1@ec.europa.eu](mailto:EAC-UNITE-B1@ec.europa.eu)

*European Commission*

*B-1049 Brussels*

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Conducted by the Center for  
Higher Education Policy Studies (CHEPS)  
and ICF



**Project team:**

**Project Director:** Ben Jongbloed

**Project Manager:** Cécile McGrath

**Senior researchers:** Harry de Boer, Ariane de Gayardon

**Advisory board:** Peter Van der Hijden, Jaana Puukka, Frank Ziegele

**Country research coordinator:** Claire Walkey

**Country / case study researchers:**

Austria (AT): Stefan Humpl, Katharina Hack, Kerstin Scherz

Belgium Flanders (BE-NI): Eline Wildoer

Belgium French speaking community (BE-Fr): Cécile McGrath

Bulgaria (BG): Maria Karayatova

Croatia (HR): Marija Pavkov

Czech Republic (CZ): Klara Kovarova

Cyprus (CY): George Maridis

Denmark (DK): Astrid Henningsen

Estonia (EE): Eve Mägi

Finland (FI): Jaana Puukka

France (FR): Ariane de Gayardon

Germany-Berlin (DE-Berlin; DE-BE): Ben Jongbloed

Germany-Lower Saxony (DE-LS): Andrea Kottmann

Greece (EL): George Maridis

Hungary (HU): Gabor Endrodi

Ireland (IE): David Scott

Italy (IT): Martina Morosi & Gianfranco Pischredda

Latvia (LV): Anete Veidemane

Lithuania (LT): Rimantas Zelvys

Luxembourg (LU): Cécile McGrath

Malta (MT): David Scott

Netherlands (NL): Harry de Boer & Ben Jongbloed

Poland (PL): Aleksandra Duda

Portugal (PT): Pedro Teixeira

Spain (ES): Javier Valle

Romania (RO): Daniela Craciun

Slovakia (SK): Klara Kovarova

Slovenia (SI): Damijan Štefanc

Sweden (SE): Jan Hylén

ECIU case study: Harry de Boer

EU-CONEXUS case study: Kristina Basna

Layout & editing: Michael Richardson & James Hennessy

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## Main abbreviations

**DG EAC:** Directorate General for Education, Youth, Sport and Culture

**EC:** European Commission

**ECIU:** European Consortium of Innovative Universities

**ERC:** European Research Council

**ETER:** European Tertiary Education Register

**EU:** European Union

**EUI:** European Universities Initiative

**EU-CONEXUS:** European University for Smart Urban Coastal Sustainability

**HE:** Higher Education

**HEI:** Higher Education Institution

**OECD:** Organisation for Economic Cooperation and Development

**PBF:** Performance-Based Funding

**SYMPA:** System for the repartition of means toward activity and performance, *Système de répartition des Moyens à l'Activité et à la Performance*.

**T&L:** teaching and learning

**Country abbreviations** used according to the European Union interinstitutional style guide REV 23 / 1.2.2020.

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## Please note:

The data collection for this study was completed in December 2021 and the manuscript was finalised in December 2022. Some countries may in this period have changed their higher education funding system and/or the methods and amounts of their national contributions to the European Universities Initiative. While every effort was made to reflect the most up-to-date situation, the most recent policy development could not be reflected in the analytical phase of this study.

## **Abstract**

This study focuses on the state and effectiveness of national funding systems of Higher Education to support the European Universities Initiative. Its focus lies on the mechanisms employed by Member States for the core funding of higher education institutions, in particular the mechanisms that include performance elements. More specifically, the study reviews the rationale of Member States' Performance Based Funding (PBF) systems and the evidence on their impact on various dimensions of higher education performance.

The types of funding mechanisms and their degree of performance orientation are compared across Member States, and contextualised information on positive and negative effects of Performance Based Funding over the period 2010-2020 is collected and analysed. In addition, information is collected on the type and extent of the Members States' financial contributions to the transnational university alliances funded as part of the European Universities Initiative.

The study provides a set of conclusions on effectively implementing national and EU policy priorities through PBF in higher education. From the qualitative and quantitative evidence generated from this study, a series of recommendations related to various aspects of national higher education funding mechanisms are put forward for Member States to consider, including on the suitability of PBF systems to support transnational university alliances under the European Universities Initiative.

## FOREWORD



Today, more than ever, our society needs its higher education institutions to face multiple challenges – climate, digital, demographic, geo-political, health and their social and economic consequences. Demands for the higher education sector are ever growing, in line with these challenges, calling for an

optimisation of resources allocation to ensure that the higher education system achieves its many goals across all missions of education, research, innovation and service to society.

EU Member States have sought to respond to this demand by linking funding with performance on key policy objectives, with diverse higher education funding reforms entailing a large variety of funding approaches and policy objectives taking root across Europe in the past decade.

The European Universities initiative, one of the main flagship initiatives of the European Education Area, set up in response to the EU leaders' call in the Conclusions of the European Council of 14 December 2017, has acted as a catalyst for accelerating national reforms and transformation of the sector as whole. This can explain why almost all Member States are currently financing their national higher education institutions involved in the initiative to support alliances to achieve their full potential.

This study provides on the one hand, a relevant **mapping of performance-based funding mechanisms in higher education across EU countries** and an assessment of their effectiveness, and on the other hand a **mapping of the national funding supporting the higher education institutions participating in the European Universities initiative**.

In the context of the mid-term review of the programmes under the Multiannual Financial Framework 2021-2027, the study identifies good practices of national policy and funding reforms, and provides an important contribution to the debate on better supporting transnational higher education cooperation through a joint mobilisation of EU and national sources of funding. In line with the recent Council Recommendation on building bridges for effective European higher education cooperation<sup>1</sup>, adopted on 5 April 2022, the study results will also feed into the development of an investment pathway for the European Universities initiative for the post 2027 financial period, aiming to support alliances holistically across their different missions, by blending European, national and regional funding.

***Mariya Gabriel***

*Commissioner for Innovation, Research, Culture, Education and Youth*

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<sup>1</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022H0413%2801%29>

## Executive Summary

### The study

This study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative has two goals. First, it analyses the implementation of performance-based funding (PBF) systems in the 27 EU Member States and evaluates their impact. Second, it seeks to understand how and to what extent national (PBF) funding schemes can be used to support transnational university alliances, as initiated under the European Commission's European Universities Initiative (EUI) in 2019.

The study therefore addresses the following three research questions:

1. Do Member States make use of PBF models and what have the key trends been over the past 10 years?
2. To which extent do PBF models provide incentives for achieving the policy goals of inclusion and innovation in teaching and learning?
3. Do the national funding mechanisms support (or can they support) transnational university Alliances, such as the ones initiated under the European Universities Initiative?

The findings of this study are based on:

- a mapping of 29 EU higher education funding systems (25 national systems, the two regions of Belgium and two states in Germany),
- in-depth case studies of eight national funding systems (Austria, Bulgaria, Denmark, Finland, Germany (Berlin), Italy, the Netherlands and Poland),
- two case studies of European Universities alliances: the European Consortium of Innovative Universities (ECIU) and the European University for Smart Urban Coastal Sustainability (EU-Conexus), and
- a webinar with more than 20 experts to validate the study's conclusions.

### Main findings

#### Funding mechanisms in EU higher education systems

PBF has become a widespread mechanism used by European higher education systems to distribute core funding to higher education institutions (HEIs). Twenty-one higher education systems use some form of PBF for allocating core public funding, through performance elements included in a funding formula, a performance agreement, or a combination of the two.

European PBF systems vary widely. They differ notably in the mixes between formula-based and negotiations-based (agreements) systems, the performance indicators and criteria used, and the shares of funding linked to performance. In addition, what is considered performance vary between national contexts: it depends on the system's objectives and perception of performance.

Out of the 21 European higher education systems that include performance in their core funding, 13 have a moderate degree of performance orientation, distributing 15 to 60 percent of their core funding based on performance. Only six systems have a high level of performance orientation (>60%). In the past decade, the share of performance-based funding has increased in seventeen of these higher education systems.

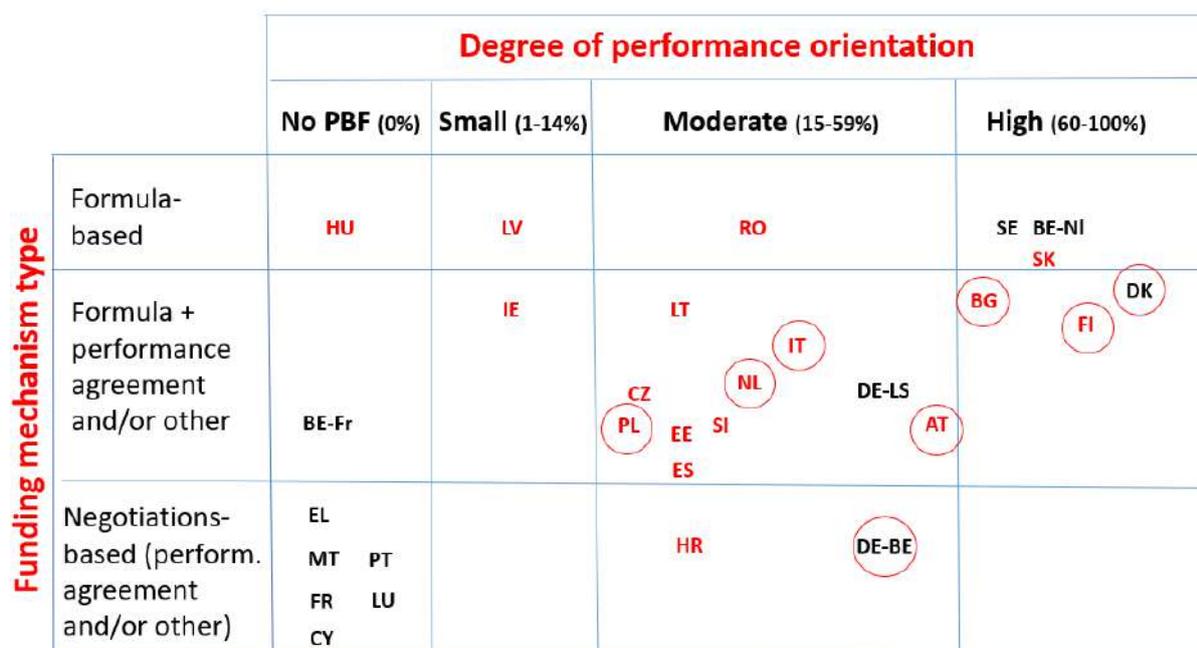
Many systems in the EU implement performance-based funding through their funding formulas. Frequently used education-related performance indicators in funding formulas are the number of degrees provided by an institution and its graduation rates. As far as research is concerned, the most frequent performance indicators are external research funds and the number of doctorates awarded.

However, in the past decade EU higher education systems have moved from formula-/indicator-based approaches to more dialogue-based funding systems, including in particular the linking of core funds to performance agreements. These performance agreements support the strengthening of HEIs' institutional profiles and strategic management processes, encourage strategic dialogues between HEIs and funding authorities or Ministries, and foster accountability and transparency about the HEI's achievements. The most frequent education objectives in performance agreements are addressing student demands and labour market needs, internationalising, and encouraging diversity and study success. The most frequent research targets are the generation of competitive research revenue, internationalisation, and excellence in research.

Since 2010, there have been key funding reforms in almost all EU systems. PBF approaches have regularly been revised through the introduction of new indicators and funding criteria.

The graph below sums up the diversity of approaches in the EU and the degree of performance orientation in the Member States' core funding systems.

Types of funding mechanisms and their degree of performance orientation in EU Member States



Source: ICF/CHEPS

Note: In the countries/states shown in red, the share of PBF has increased over the period 2010-2020. The circled countries/states (8 in total) were selected as case studies for our study's evaluation phase. For country codes, see [here](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Country_codes). [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Country\_codes]

### Impacts of performance-based funding

The general conclusion that emerges from the eight European case studies, the experiences of other systems and the insights from the expert webinar is that the impacts of PBF systems depend on their type, design and implementation as well as the national contexts and traditions in which they function. The large differences between higher education systems in that respect – also in terms of their systems of higher education governance, accreditation, student finance and research grants – limit, however, the generalisability of our findings.

Additionally, the performance of the higher education sector is impacted by many external factors - such as the share of performance-based funding versus that of competitive (project-based) funding, other incentives originating from the HEIs' environment, and/or other changes in higher education policies. This makes it difficult to assess the effectiveness of (changes in) performance-based funding on specific performance dimensions of higher education systems.

Despite these difficulties, the findings of this study point to the following impacts of PBF:

- increased study completion rates
- reductions in time-to-degree and increased study progress
- improved teaching and learning quality
- greater focus on student guidance and mentoring
- improved research quality
- increase in PhD outputs
- improvement in internationalisation

More generally, performance-based funding systems:

- incentivise the performance-orientation in HEIs and help reach the results at which they aim;
- provide legitimacy for the public funds allocated to the higher education sector;
- offer a transparent way to distribute core funding to HEIs; and
- support the strategic dialogue between HEIs and their funding authorities or Ministries.

However, PBF systems also risk producing unintended consequences for the system, including, among others:

- some HEIs tend to experience a disadvantage compared to other HEIs due to their size, their regional location, and/or their disciplinary profile/specialisation, which may be due to an inadequate fit between the performance-funding indicators included in the PBF system and the missions of the HEIs;
- HEIs may perceive the performance criteria as conflicting with their institutional autonomy;
- the tendency of bibliometric indicators to modify researchers' publication patterns and;
- a higher administrative burden for institutions and staff, due to increased reporting requirements and the complexity of the funding system's arrangements.

### The funding of European Universities Alliances

Member States allocate funding to the alliances in two ways: 1) targeted funds that are awarded as a one-off contribution or for a particular period, and/or 2) funds integrated in the HEI's core funding, where the systems in place benefit specifically the national higher education institutions that are part of a European University alliance.

In 21 European higher education systems, targeted national funding is provided to the higher education institutions that are part of an alliance; while seven systems do not provide targeted national funding<sup>2</sup>. The types and amounts of targeted national subsidies vary substantially. In six cases, the national funding provides a compensation for the 20% mandatory co-funding of the alliance institution; in eleven others the national subsidy is a fixed amount.

Instead of, or in addition to, targeted national support for alliances' institutions, 17 systems (including five of the seven systems above that do not provide targeted funding) support the alliances by rewarding internationalisation in the core funding of HEIs – in a funding formula (12 systems) and/or a performance agreement (eight systems). In all these cases, the country's financial support for internationalisation directly or indirectly incentivises the activities undertaken by institutions that are part of an alliance. The core funding systems of three Member States refer explicitly to alliances.

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<sup>2</sup> At the close of the data collection for this study, targeted funding was foreseen for three out of these seven countries.

In 11 higher education systems, there is a combination of funding through targeted support and core funding.

Alliances raised the following points regarding their financial sustainability:

- The full cost of the alliance's activities exceeds the combined support from EU and national sources, the difference being covered by HEIs own resources. This reflects the high ambitions of the alliances and the strategic importance HEIs attach to their European University.
- The financial sustainability of the alliances in the future will continue to depend heavily on EU grants and targeted national contributions.
- The legal status of an alliance and its funding opportunities are interlinked and, as our case-studies clearly indicate, this affects an Alliance's ability to engage in long-term financial commitments.

### **Recommendations on Performance-Based Funding**

Based on our findings, we have issued the following recommendations:

- Before implementing or reforming a PBF system, responsible authorities should set out the broad goals it aims to achieve with PBF.
- Performance-based funding systems need to be based on smart *performance measurement* systems.
- PBF systems require a *co-design* with the higher education sector to increase their effectiveness.
- To minimise the risk of unintended consequences of using PBF, funding authorities should carefully assess the attribution of a relatively high share of core funding to measures of performance.
- HEIs should have some degree of choice and flexibility within the PBF system.
- Performance-based funding is best established in the context of increasing (i.e. extra) higher education funding.

### **Recommendations on the funding of the European Universities Initiative**

- Alliances should seek to diversify their revenue sources and develop sustainable business models exploiting synergies and complementarities between European, national/regional, and alliance-induced income streams. The latter could be generated through, for instance, fees for online and blended micro-credential certificates and joint research projects.
- The degree of transparency of the use of higher education institutions' own resources within the alliances can be improved further.
- Regulatory obstacles to realise the full potential of the European Universities Initiative should be removed by means of a combined effort of the European Commission, Member States and the Alliances.
- In line with the Commission's recent European strategy for universities, two non-mutually exclusive options could be considered for national authorities to fund European Universities alliances:

Option 1: For Member States that choose to allocate financial support to their national HEIs' participation in transnational university alliances, performance agreements could provide a feasible way to support the European Universities.

Option 2: Member States that choose to financially support their national HEIs' participation in transnational university alliances can do so through targeted national funding provided for a number of years, and allocated separately from core funding.



# 1 Introduction

This report sets out the main findings and policy recommendations resulting from our study on the state and effectiveness of national funding systems of higher education to support the European Universities Initiative (EAC/33/2019).

The study places a particular emphasis on understanding how performance-based funding (PBF) of higher education has been implemented in the 27 EU Member States and to what extent PBF has had an impact on national higher education systems. Across the EU, PBF has become an increasingly popular way of providing (some of) the core funding for higher education institutions (HEIs), as governments aim at encouraging their HEIs to become more efficient, inclusive and innovative. Yet, a more in depth assessment is needed about the impact of PBF mechanisms and the requirements of ‘successful’ PBF systems. The purpose of this study is to address this knowledge gap and to highlight interesting examples of the use of PBF and to investigate which lessons can be transferable across EU Member States.

An additional objective for this study is to investigate how and to which extent national PBF funding schemes can be used to support transnational university alliances, as initiated under the European Universities Initiative (EUI). The European Universities Initiative was launched by the European Commission in 2017 to strengthen strategic partnerships across the EU between HEIs that collectively work on innovations in teaching and learning, promoting European values and identity, strengthening the quality and international competitiveness of the European higher education sector and contributing to building the European Education Area. So far, 44 European University Alliances have been selected under three calls for proposals in 2019, 2020 and 2022. In view of the timing of this study, the analysis only covers the 41 alliances selected under the 2019 and 2020 Erasmus+ calls.

This study aims to analyse the scope for national governments to support the European Universities Initiative. While European funding for the initiative stems from the Erasmus+ programme, with additional funds provided through Horizon2020 for the development of the research and innovation dimension of the alliances, some Member States provide co-funding to their HEIs participating in the Alliances. There are however differences in the level and mechanisms through which co-funding is allocated. Our study shows the differences currently existing between countries and provides some options on how national governments may want to provide financial support in the future to support the realisation of the Alliances’ ambitions.

The study therefore focuses on the following three research questions:

- **Research question 1:** Do Member States make use of performance-based funding (PBF) models and what have been the key trends over the past 10 years?
- **Research question 2:** To which extent do PBF models provide incentives for achieving the policy goals of inclusion and innovation in teaching and learning?
- **Research question 3:** Do the national funding mechanisms support (or can they support) transnational university alliances, such as the ones initiated under the European Universities Initiative?

This report is based on a mapping of how higher education funding systems have been designed across the EU-27 and to what extent they make use of performance-based funding. The mapping draws upon a review of the existing literature and relevant official documents on higher education funding, on interviews with Ministerial officials and sector representatives, and an online questionnaire that was sent to relevant Ministries EU-wide. After the mapping exercise, we undertook a further in-depth study of eight national funding systems and also investigated two European University Alliances to collect information on their current funding structure and their views on the future financial sustainability of their alliance. To validate our findings and policy recommendations, an online webinar was organised where more than 20 experts were invited to share their views on our study’s preliminary conclusions.

Our report is structured as follows: Section 2 summarises our methodology. Section 3 describes the results of the mapping stage of our study. Section 4 then discusses the results of the in-depth case studies to learn about the state and effectiveness of national funding mechanisms – in particular the PBF systems in place in eight Member States. Section 5 addresses the third research question: how can national funding mechanisms support the European Universities Initiative? Finally, section 6 presents conclusions and policy recommendations.

The annexes to this report are included in a separate document. They contain the country factsheets with more details on individual countries' funding systems (Annex 1), the eight country case studies (Annex 2), the case studies of two European University Alliances (Annex 3), and an overview of the case study researchers plus the experts and participants in the validation webinar (Annex 4).

## 2 Our methodology

### 2.1 Summary of our analytical approach

Because funding is a key driver of results in HEIs, understanding funding mechanisms and how they affect HEIs is essential to improve performance in the HE sector, including on their participation in transnational university alliances such as the EUI. This is the rationale for our study. Our analytical framework helps determine the tools and data templates for collecting and organising information on European funding systems and their impact across the three main functions (missions) of education, research and societal engagement.

We have collected data on these three key missions of higher education across the EU-27 to seek to establish to what extent the funding systems address the different stages in higher education activity that is the HEIs' inputs, their activities, and their results – their *performance* in terms of outputs, outcomes and impacts. The framework was used to organise the data collected on funding mechanisms and the elements of performance these mechanisms relate to.

Figure 1 provides more details about the different elements of the framework.

Figure 1. Elements of our analytical approach

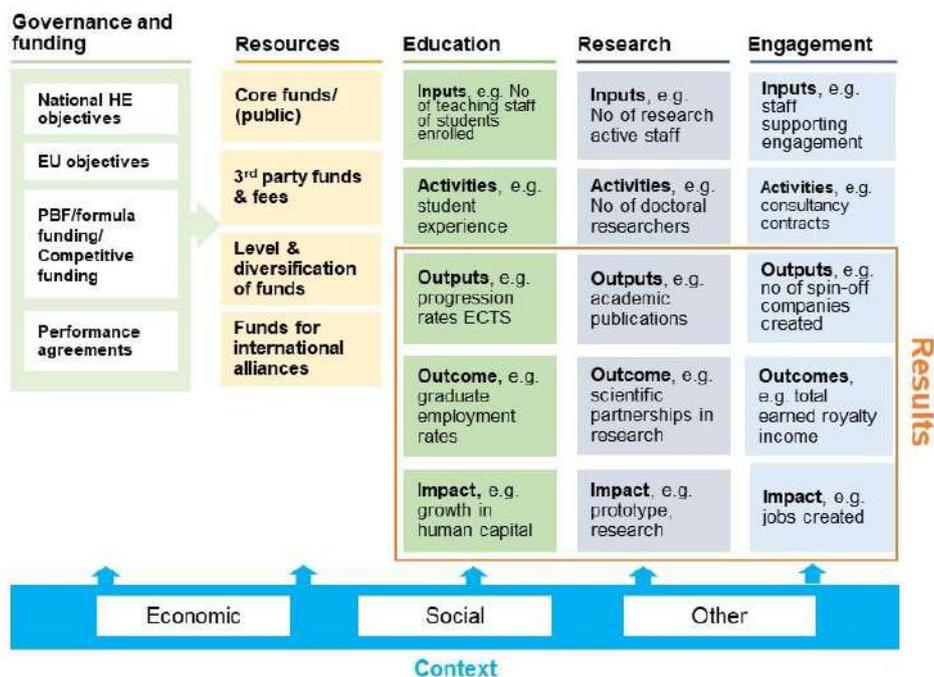


Figure 1 includes a number of elements that we will now discuss in slightly more detail.

#### 2.1.1 Governance and funding mechanisms

Governance and funding mechanisms are measures put in place by higher education authorities (government, funding agencies, other public bodies) to create the conditions in which HEIs function and deliver benefits to society. Funding mechanisms – for the *core funding*, as well as the *competitive, non-core funding* – are particularly important. Reforms in funding are often used by authorities to improve the activities and results of HEIs.

- Our definition of governance encompasses core funding mechanisms, other types of public funding (including competitive funds), as well as for instance the accountability arrangements surrounding HE funding.
- The goals and objectives of the Government (national, regional, supranational) will drive the type of funding mechanisms employed by the funding authorities (e.g. the education ministry) and the kinds and levels of resources provided (i.e. public funding; room for generating additional funding). The effectiveness of the funding models is dependent not just on the volume of financial, human and physical resources provided to HEIs, but also on the incentives the models provide for HEIs.

### 2.1.2 Resources, inputs, activities

There is a key role for *resources* in HEIs, as they enable their functioning and the creation of strategic alliances. Resources can be classified into financial, human, and physical resources.

- Our study focuses particularly on financial resources provided through *core funding*. However, we acknowledge the fact that HEIs also depend on other revenues – on tuition fees and third-party funds (e.g., project funding). In most EU Member States, governments are still the primary funding provider for HEIs and core funds represent the largest share of HEIs' revenues. Core funding is channelled directly to HEIs usually in the form of block grants, while project funding is a form of indirect funding, often awarded competitively to (teams of) academics by third parties such as research councils. Tuition fees charged to students are in place in several EU member states, with wide differences between countries in terms of fee levels and student support systems to helping students cover (part of) their fees and living costs.
- *Inputs* include all the HEIs' production factors (staff, materials, infrastructure, technology) for supporting the HEIs' activities in terms of the various HE missions.
- HEIs carry out various *activities* to fulfil their three missions of education, research and engagement. These activities are interconnected, with one activity affecting/enabling the capacity and success in others. Funding mechanisms/governance systems usually recognise the links and potential synergies between these activities. For instance, postgraduate education is often closely connected to research activity. Undertaking education and research also enables HEIs to fulfil their engagement mission, for example by developing links with external (including international) partners.

### 2.1.3 Results (outputs, outcomes, impacts)

With greater need for HEIs to justify their public funding, there are increasing attempts and policies around demonstrating and measuring the value and results of HEIs – their *performance*. These attempts appear in several policy tools and evaluations of HEIs, but difficulties remain in assessing performance in terms of education, research and societal engagement. Performance/results can be categorised as *outputs*, *outcomes* and *impacts*, using the criteria of directness and tangibility. In addition, one can consider the stakeholder group affected by the HEIs' activities, i.e. students, academics, business, public sector, regions/local communities, and society in general. Using these criteria, we distinguish the following types of performance:

- *Outputs* are the direct products, services or other properties that are delivered as a result of the HEIs' activity. They are typically tangible and countable and are delivered to individual and institutional stakeholders in the short term.
- *Outcomes* are the direct benefits (or detriments) of HE experienced by individuals and institutions. Outcomes result from outputs and can be positive or negative for the stakeholder, tangible or intangible and experienced directly or indirectly over time.

- *Impacts* are the results experienced indirectly by individuals, institutions and societies. The directness of the effect is the main difference with outcomes. Stakeholders receiving indirect impacts from HEIs over the medium to long term include individuals, institutions and societies.

#### 2.1.4 Measuring the impact of funding mechanisms

The impact of funding mechanisms, including PBF, on the outputs, outcomes and impacts mentioned above is complex to analyse in a robust way. There are several reasons for this, including:

- The tacit and qualitative nature that characterises many of the HEIs' activities and their performance, making it difficult to establish its links to funding mechanisms.
- The fact that funding is embedded in a broad governance framework along with competitive funding and tuition fees, implying that various confounding variables come into play that affect performance. This includes other institutional arrangements and incentive structures, such as accreditation frameworks, and the balance between core funding and competitive project-based funding. This makes it difficult to identify causal relationships between PBF and performance.
- The fact that funding mechanisms such as PBF come in various shapes and sizes. For instance, PBF can be expressed in funding formulas or bilateral negotiations between funding authorities and individual HEIs. Furthermore, the performance-orientation of funding systems is highly variable across Member States. This makes it difficult to generalise the findings from one country to another. In addition, there is a need to disaggregate the dimensions impacted by funding mechanisms such as PBF, i.e. education, research, or the societal mission of higher education institutions.
- The need to obtain reliable data over a period of time which is sufficiently long enough for change/impact to occur.

In order to address the challenge of analysing the impact of funding mechanisms such as PBF, we have:

- Focused on indirect and more qualitative evidence of impact, collected from informants and based on experts' perceptions. For many performance dimensions in higher education, there are no commonly accepted or uniform and agreed-upon indicators to assess HEIs' activities and the areas and stakeholders affected. Therefore, we have more particularly:
  - Gathered perceptions from representatives from ministries, funding agencies, rectors' associations, directly involved in funding decisions and funding policies, regarding the positive and negative effects of national funding mechanisms such as PBF, especially in the case study countries (described in section 2.2 below). This was done in light of each country's policy objectives for higher education. Where possible, we have uncovered information on the reasons for introducing revisions in funding mechanisms/PBF. The evidence collected refers to system-level impacts of funding/PBF over time.
  - Relied on relevant national evaluation reports and policy evaluations of funding when available.
  - Validated our findings during a workshop with higher education (funding) experts. This workshop took place on 03<sup>rd</sup> December 2021<sup>3</sup>.

In our analysis of the European University Alliances, we have collected data on the impact of revenue sources from different public authorities on the financial sustainability of the Alliances.

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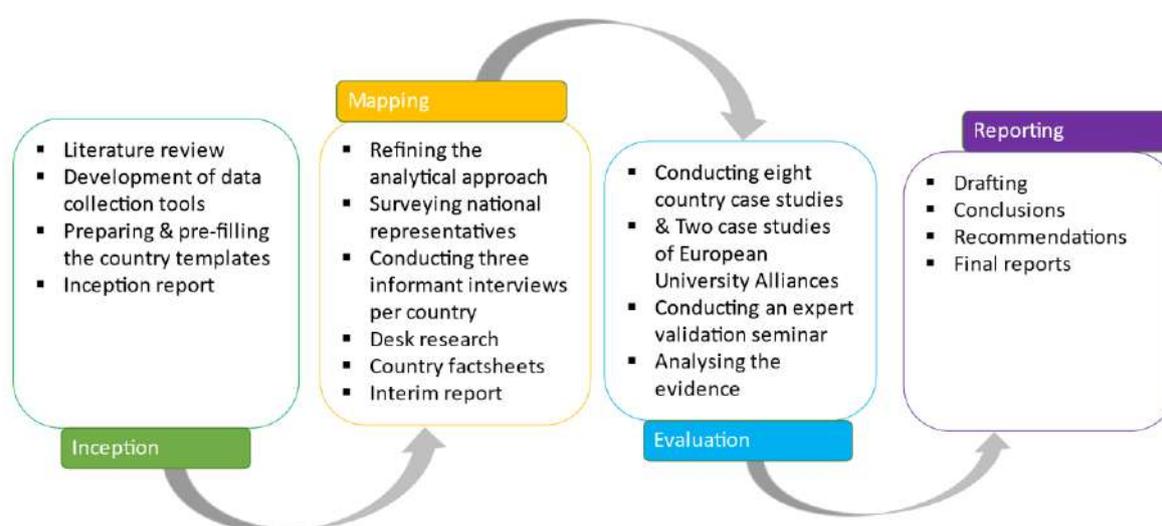
<sup>3</sup> The list of participants in the validation workshop is included in Annex 4.

This combination of data collection, including desk research, reviews of literature and evaluations, and evidence from our survey and interviews (see below), as well as data triangulation allowed us to get a better sense of the validity of evidence and the strength of potential links between funding mechanisms such as PBF and performance. Through the evidence we collected and analysed a basic understanding of the impact of PBF was formed that led to our conclusions and recommendations on the topic. However, as always, one has to acknowledge the limitations of the methodology selected.

## 2.2 Our step-by-step methodology

This section briefly summarises the methodological approach that we have used for this project. Figure 2 summarises our step-by-step methodology. This section will then discuss the various steps.

Figure 2. Overview of our step-by-step methodology



### 2.2.1 Inception

In this first phase of our study on performance-based funding (PBF), we agreed our analytical approach and data collection methods with the European Commission (DG EAC). The background, analytical framework and the more detailed questions for our surveys and interviews were inspired by a literature review that helped us identify the relevant policy-related aspects of higher education funding and transnational alliances. The outcome of this phase was an inception report that included a review of the international literature, the topics for our online questionnaire and the guidelines for the interviews. We uncovered some of the country information that fed into the next step of our study - the *mapping* exercise – during this phase of the study (see below).

### 2.2.2 Mapping

In this phase, data was collected on the funding systems of all 27 Member States, including their funding of the national higher education institutions participating in European University Alliances. Information was collected on the basis of up to three key informant interviews in

each Member State and an online questionnaire, completed by representatives of ministries or funding councils responsible for the public funding of higher education<sup>4</sup>.

Section 3 of this report summarises the main results from the mapping exercise. Abridged versions of the 29 country factsheets are included in Annex 1. An outline of the country factsheets is presented in Figure 3.

Figure 3. Outline of the country factsheets

<b>1 Context</b>				
<b>1.a. Country name</b>				
<b>1.c. Composition of institutional funding (%)</b>				
	Core funds	Tuition and other fees	3 <sup>rd</sup> party funds	Total
2010 (or closest year available)				
2020 (or most recent year)				
<b>1.d. Share of funding mechanism type Legend: 0 = not present (share = 0%); √ = small share (1%-10%); √√ = medium share (10%-50%); √√√ = large share (50%-90%); √√√√ = extremely large (90%-100%)</b>				
	Funding formula	Funding contract	Other (e.g., Historically determined/incremental)	
Share in 2010 (or closest year available)				
Current share (in 2020 or most recent year)				
<b>2 Funding Formula</b>				
<b>2.a. Indicators used in the current formula funding ranked by importance and categorised by mission</b>				
<b>3 Funding agreements/contracts</b>				
<b>3.a. Main criteria used in the funding contract/agreement ranked by importance sorted by mission</b>				
<b>4 Other funding systems</b>				
<b>4.a. System in place if there is no formula or contract</b>				
<b>4.b. Inclusion of performance-related elements</b>				
<b>4.c. Criteria in the funding system linked to the goal of internationalisation in higher education</b>	Education-related internationalisation criteria	Research-related internationalisation criteria	Internationalisation criteria that are equally related to education and research	Engagement (3 <sup>rd</sup> mission, entrepreneurship, etc.) - related internationalisation criteria
<b>5 General information on PBF</b>				
<b>5.a. Share of direct core funding (allocated through formula funding, funding contracts and/or historical/other mechanisms) driven directly by performance criteria</b>				
<b>5.b. Evolution of performance orientation in core funding system since 2010: increased, remained the same, decreased, don't know</b>				
<b>6 Data collection and performance monitoring</b>				
<b>6.a. Data collection mechanisms tied to the performance-based funding system</b>				
<b>6.b. Perceived administrative burden for HEIs to abide by the reporting requirements in the context of the performance-based funding system</b>				
<b>7 Any other comment</b>				

The country factsheets show the composition of institutional funding; the core funding mechanisms in place, indicators in the funding formula, the funding agreements, the share of core funding driven by performance criteria, the evolution of performance-based funding since 2010, as well as further information on data collection and monitoring systems in place in the Member States.

The information was collected over the spring and summer of 2021.

### 2.2.3 Evaluation

On the basis of information from the mapping phase, an in-depth *evaluation* of PBF was made through eight case studies of higher education funding systems<sup>5</sup> and two case studies of

<sup>4</sup> The questionnaire was sent to two regions in Belgium and Germany (Berlin and Lower Saxony) since these systems devolve responsibilities for higher education. The choice of regions was based on their relevance in terms of use of PBF.

<sup>5</sup> Section 4 presents the findings from these case studies.

European University Alliances that were founded as a result of the European Universities Initiative (EUI) – following its 2019 and 2020 calls<sup>6</sup>. Each of the 8+2 cases was an example of a system or Alliance with a particularly distinctive set of funding features or other characteristics that distinguished it from other cases.

We have collected evidence on the design and functioning of the national funding system, respectively the funding structure of the Alliances across the 10 case studies. The questions asked to experts and other informants from national higher education systems and Alliances touched on the issue of the benefits and challenges related to the funding systems and the options to fund European Alliances from national funds.

The selection of the eight higher education funding systems was made in agreement with the European Commission (DG EAC) and took into account criteria such as:

- The percentage of core funds tied to performance criteria.
- Whether significant funding reforms have taken place in the country in the past 10 years, such as the introduction of PBF/ performance agreements, or a change in the share of core funds tied to performance.
- The geographical location of the countries, to ensure a balanced repartition.
- The availability of evaluation-type information on funding systems, in order to be able to assess the positive/intended as well as the negative/unintended effects of PBF.

The criteria led to the following selection of national higher education systems:

- Austria
- Bulgaria
- Denmark
- Finland
- Germany (Berlin)
- Italy
- the Netherlands
- Poland

(See section 3 for further information on this selection)

We have applied a number of criteria to the European University Alliances for which data had been collected during the mapping phase in order to select two Alliances for a more in-depth investigation during our evaluation phase. We have taken into account:

- The profile of the Alliance and the partners involved.
- The geographical location of the Alliance partners, in order to ensure a balanced repartition.
- When the Alliance was first founded, i.e. before the EU call to fund European University Alliances, in the first/2019 selection round, or in the second/2020 selection round.

The two European University Alliances that were selected are:

- European Consortium of Innovative Universities (ECIU University)
- EU-CONEXUS (European University for Smart Urban Coastal Sustainability).

(See section 5 for further information on this selection)

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<sup>6</sup> Section 5 focuses on the findings from the case studies of the European university Alliances. The eight detailed country case studies are included in Annex 2; and the two case studies of the European Universities Alliances included in Annex 3.

For the eight case studies of higher education funding systems the questions addressed in our interviews and analysis during the *evaluation* stage included:

- How is the funding system structured? What is the share of performance-based funding?
- What are the key goals and criteria of the funding system?
- Does the (PBF) funding system work? What are the positive (intended) and negative (unintended) effects? What are the effects on inclusion and innovation in teaching and learning?
- What data collection efforts and monitoring of effects is taking place?
- Does the national funding system provide support to the European Universities? What are ongoing debates?
- What have been the changes and reforms in funding models over time, including reasons, stakeholder/expert opinions and outcomes of existing evaluations.

For the two case studies of the European University Alliances, we have concentrated in our interviews and analysis on the following questions:

- What have been the objectives and achievements of the Alliances?
- How are the Alliances funded? Which funding mechanisms are used and how much national funding is received?
- What are the stakeholders' views regarding the way through which national funding is received and the amount of national funding?
- What are the stakeholders' views regarding the sustainability of the Alliances?

The data for the ten case studies was collected in the second half of 2021.

The findings and the policy recommendations based on the Mapping and Evaluation phase of our study were validated through an *expert workshop*, conducted in December 2021. More than 20 renowned academics and stakeholder representatives participated in this validation webinar. The list of attendees is included in Annex 4. We also collected additional information on the revenues of Alliances after having discussed our project during a meeting held in the autumn of 2021 with representatives in the FOR-EU platform. Finally, we have validated our results through a comparison with other relevant reports, such as the 2022 report from the European University Association on *Allocating core public funding to universities in Europe*, which gathers data from rectors' associations on public funding systems across the EU<sup>7</sup>.

## 2.3 Reporting

The final phase of our study, i.e. reporting on results, led us to elaborate on conclusions and a number of policy recommendations. A first draft of the conclusions and recommendations, based on the results of the evaluation phase, was validated in the expert meeting and discussed with our DG EAC Steering Committee. Before the submission of the draft report to the European Commission (DG EAC), our findings and recommendations were reviewed by our Advisory Board, consisting of three experts in European higher education policy. The final report includes our main findings, which are substantiated by examples of higher education funding systems shown throughout this report in a number of boxes. The boxes present more detailed information about a particular country or university Alliance and highlight key points, interesting findings and inspiring practices.

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<sup>7</sup> Bennetot-Pruvot, E. and Estermann, T. (2022) *Allocating core public funding to universities in Europe: state of play and principles*, Brussels: European Universities Association.

## 3 Mapping of higher education funding systems in the EU Member States

### 3.1 Introduction

This section maps the higher education funding mechanisms used across the EU – paying attention in particular to performance-based funding (PBF) mechanisms in response to research question 1 (see section 1). We also present an overview of the main revenue sources of higher education institutions. More precisely, this section:

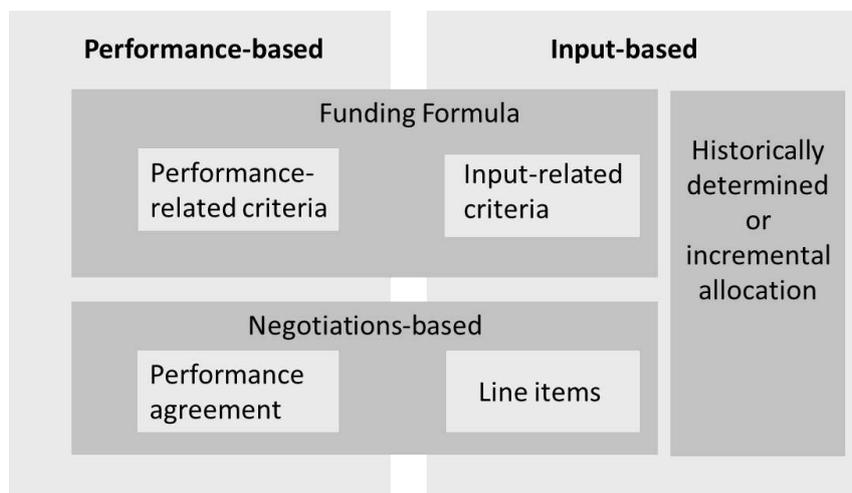
- Classifies funding mechanisms in general (subsection 3.2)
- Describes developments in funding mechanisms and in PBF as used in the EU, including considerations on data collection and performance monitoring, as well as incentives provided for inclusion and innovation in teaching and learning (3.3)
- Summarises the main conclusions of the section (3.4).

### 3.2 Classifying funding mechanisms & sources of funding

#### 3.2.1 Classifying core funding systems

Our study looks at PBF as part of the mix of funding instruments used by governments, that is: the funding authorities, e.g., the Ministry of Education, for the core funding of HEIs. Core funding is also known as recurrent funding, or base funding. Funding authorities can use a variety of approaches—allocation mechanisms— to determine the amount of core funds allocated to the HEIs in their country. In many countries – certainly in Europe – this core funding represents the largest share of the HEIs’ revenues.

Figure 4. Core funding mechanisms



Source: CHEPS/ICF

In Figure 4, we distinguish formula-based and negotiations-based approaches, as well as approaches where the institution’s previous years’ allocation drives the core funding. In case of the historically determined funding, the allocation is usually adjusted in an incremental way. These three funding approaches intersect with funding mechanisms that focus on *performance* (see left-hand side of Figure 4), respectively *inputs* (right-hand side).

### 3.2.2 Formula funding

The main aim of a formula is to treat all higher education fairly – according to the same formula – thus providing transparency in the funding decisions. The variables and parameters in the formula normally are specified by the funding authorities in such way that they align closely to the broader higher education policy priorities of the Government, allowing for changes to be made to the parameters over time<sup>8</sup>.

Core funds are calculated through one or more mathematical formulas, based on a set of predefined parameters and indicators. The formula will normally include volume measures (i.e., indicators) and price components (i.e., unit costs – or prices), that are set with an eye upon the costs of delivering a particular unit in terms of education or research. These elements in the funding formula will typically be articulated through a funding base as well as other funding parameters and objective measures, such as student enrolments per degree program, cost per student, or reward per degree awarded.

Most funding formulas include a mix of *input* and *output* (i.e., performance) *indicators*, along with indicator *weights* to stress higher resource needs or higher priorities attached to particular activities in education or research. For instance, a higher weight might be applied to indicators related to the number of students from a particular background (e.g., students with disabilities, or from a disadvantaged background) or to indicators related to different disciplines, given that they may have different costs. Using weights allows funding authorities to reflect various policy priorities.

In the United States, funding formulas have been in use since the 1960s<sup>9</sup>. In the European Union, its introduction has been more recent<sup>10</sup>. Funding formulas initially predominantly included education-related indicators and parameters. Simple input indicators were used, such as the number of students and the cost of instruction weighted by disciplinary field. Another example of an input measure is the staff volume of an institution or its floor space.

With the introduction of New Public Management approaches in the public sector in the 1990s<sup>11</sup>, many higher education systems have reformed the ways in which their higher education institutions were funded and have started to introduce measures of the institutions' performance in the funding formula<sup>12</sup>. Through *performance-based funding*<sup>13</sup>, institutions are rewarded for delivering particular outputs, thus creating a quasi-market environment<sup>14</sup>. Higher education institutions are incentivised to pay more attention to degree completion, their students' time-to-degree, the amount of credits accumulated by students, research productivity, citation rates, et cetera.

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<sup>8</sup> OECD (2020). *Resourcing higher education: Challenges, choices and consequences*. Paris: OECD Publishing.

<sup>9</sup> Lasher, W. and Greene, D. (1993). College and university budgeting: What do we know? What do we need to know? In Smart, J. (ed.) *Higher Education: Handbook of theory and research*, Vol. IX, pp 428-469. New York: Agathon Press. See also: Lasher, W. F., and Sullivan, C.A. (2004). Follow the money: The changing world of budgeting in higher education. In Smart, J.C. (ed.) *Higher education: Handbook of theory and research*. Vol. XIX, pp 197–240. Dordrecht: Springer.

<sup>10</sup> Kaiser, F., Vossensteyn, H. and Koelman, J. (2001). *Public funding of higher education: A comparative study of funding mechanisms in ten countries*. Zoetermeer: Ministerie van Onderwijs, Cultuur en Wetenschappen.

<sup>11</sup> Ferlie, E., Ashburner, L., FitzGerald, L., and Pettigrew, A. (1996). *The new public management in action*. Oxford: Oxford University Press.

<sup>12</sup> Jongbloed, B.W.A. & Vossensteyn, J.J. (2016). University funding and student funding: International comparisons. *Oxford Review of Economic Policy* 32(4), 576-595.

<sup>13</sup> Burke, J.C. (ed.) (2002). *Funding public colleges and universities for performance: Popularity, problems, and prospects*. Albany: State University of New York Press.

<sup>14</sup> Herbst, M. (2007). *Financing public universities: The case of performance funding*. Dordrecht: Kluwer.

### 3.2.3 Negotiations-based funding

In negotiated funding systems, shown in the bottom-half of Figure 4, the amount of core funding allocated to an institution is an agreed budget negotiated between funding authorities and the individual institution. In input-based budget approaches, these negotiations deal with issues such as the number of staff in the HEIs (e.g., the number of professors), its infrastructure needs (e.g., lecture halls, laboratories) or the number of students to be admitted to the institution. Similarly to the traditional funding approaches shown on the right-hand side of Figure 4, the negotiations between the HEI and the funding authorities focus on separate budget lines ('line items'), such as the HEI's salaries, expenses on materials, or infrastructure costs. These line items are discussed, taking the previous year's situation as the starting point and then applying a negotiated growth (or decrease) percentage, or simply using the rate of inflation to arrive at the budget allocation for the next year.

Over time, such historical and primarily input-based approaches have shifted toward more transparent, indicator-based systems and funding formulas. In addition, PBF has been introduced to balance accountability and the autonomy of HEIs across several Member States. And funding authorities have started to introduce performance criteria in negotiations-based approaches. In some Member States, this resulted in a system of core funding that is – at least partly – based on '*performance agreements*'<sup>15</sup>. In the case of a performance agreement, the funding authority and each individual higher education provider agree on the goals for the institution to achieve and the plans it aims to carry out for the years ahead. A part of the institution's core funds is tied to the realisation of those goals. The goals can be described in qualitative terms (e.g., improve equal access of men and women to senior academic positions, improve access for disadvantaged students), but they can also be specified using quantitative indicators (e.g., targets in terms of an increase of completion rates, the number of female professors, or the intake of PhD students). The ways and details in which performance agreements are laid out will depend on the rationale for the agreements and the goals that the national authorities have for their higher education system.

The performance agreement also specifies the 'rules of the game', in terms of the evidence (e.g., data, narratives) that needs to be delivered by HEIs to the funding authorities and the positive (or negative) financial implications connected to meeting the agreement's goals. Performance agreements are thus expected to encourage HEIs to improve their performance and to act strategically – in line with the HEI's ambitions, strengths, and weaknesses.

### 3.2.4 Third party funding and tuition fees

Next to the core funding from public authorities, HEIs generate revenues from other sources. First, project funds are allocated to HEIs for a clearly defined period of time to achieve specific outcomes. These project funds are often awarded selectively in a competitive process. They are also known as third-party funds and primarily originate from the public sector. However, private companies and private non-profit organisations (e.g., charities) can also be the source. Third party funds consist of revenues from research contracts, consultancies, and fees for services.

A major part of third-party funding consists of research grants awarded by research councils – national and international, e.g., the European Research Council (ERC). This funding stream directly flows to the researchers and research groups in the university. The research grants are awarded selectively, with researchers submitting project proposals and, after a peer review

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<sup>15</sup> de Boer, H., Jongbloed, B., Bennenworth, P. (2015). Performance-based funding and performance agreements in fourteen higher education systems: Report for the Dutch Ministry of Education.

process, the research councils decide which projects receive funding. The funding is targeted at a particular project and awarded for a specific period. ERC's Starting Grants and its Advanced Grants are examples of such competitive funding. Another example is government funding aimed at creating centres of excellence where researchers jointly work on a long-term research agenda.

Higher Education systems differ in terms of the shares of competitive funding in their system and the degree of competition experienced by the researchers in the system. Country-level data on the shares of third-party funding is shown below (Figure 5). While our study is focusing on the mechanisms for the core funding of HEIs and not on third-party/competitive funding, there are important links between these different funding types. For instance, some funding authorities financially reward their HEIs' success in generating competitive funding by including an indicator in the funding formula that reflects the HEI's revenues from third-party funding. Subsection 3.3 provides examples from higher education systems where this is the case.

A second additional funding stream beyond core funding is the revenues that HEIs receive from tuition fees paid by students. Again, this private funding is not part of our study, but it is part of the HEIs' funding environment, and its presence co-determines the behaviour (including the performance) of HEIs. The relative importance of income from fees is described in the next subsection.

### 3.2.5 General overview of institutional revenues

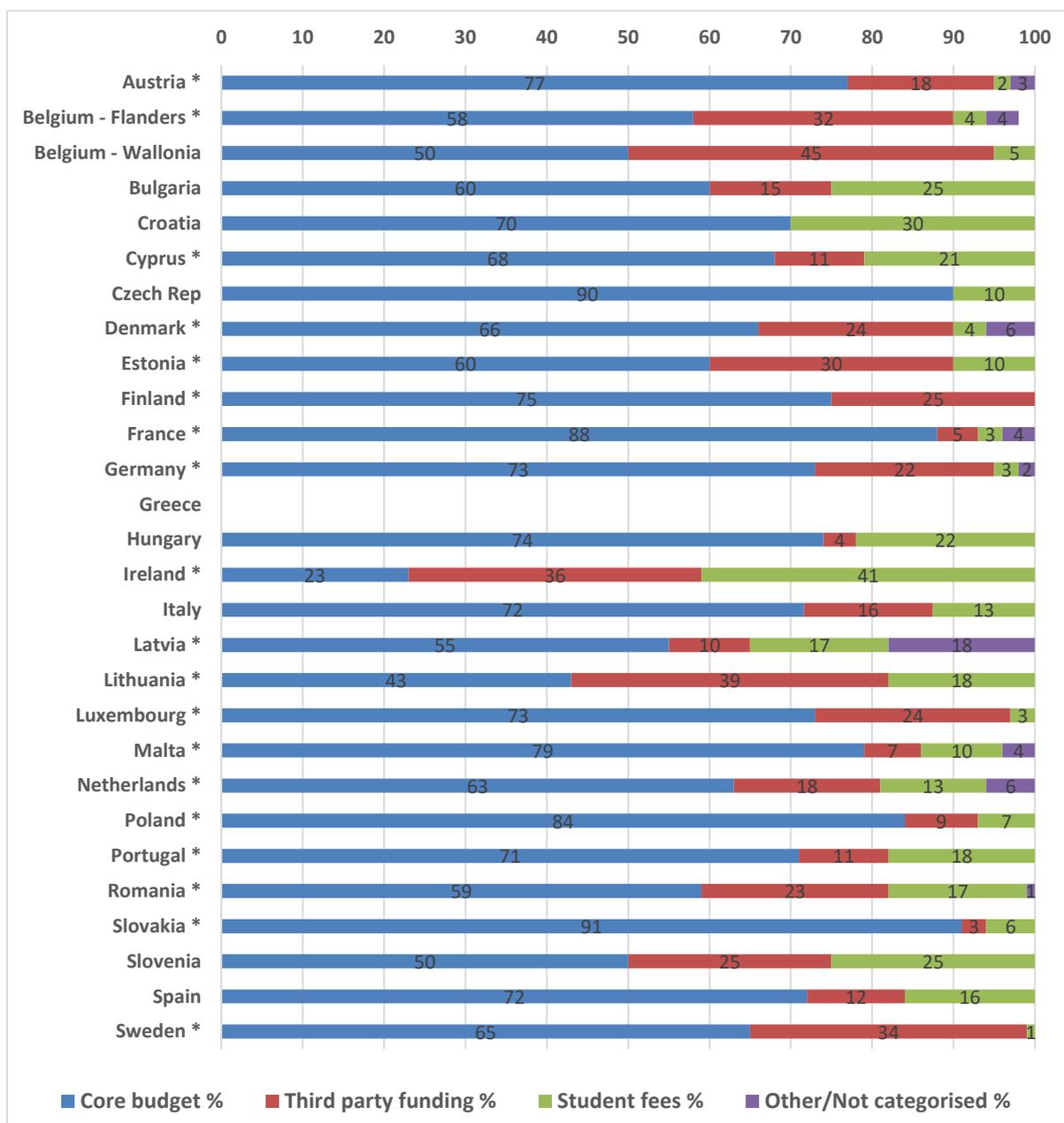
Figure 5 provides a breakdown of HEIs' revenues into three main streams, i.e. core funding, third-party funding and student fees, based on data collected from Ministry representatives across EU Member States and the ETER database<sup>16</sup>. Such a breakdown is important to understand the HEIs' funding environment in which core funding mechanisms are situated.

Figure 5 shows that the composition of institutional funding varies across the EU, with operational grants on average constituting two thirds of institutional funding. Tuition fees on average represent 13% of HEIs' revenues. Third party funds are about one-fifth of the HEIs' revenues.

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<sup>16</sup> The European Tertiary Education Register. ETER is a European-level database providing a reference list of HEIs in Europe and data at the institutional level on HEIs' activities and outputs, such as students, graduates, personnel and finances. See: <https://www.eter-project.com/>

Figure 5. Composition of institutional funding, 2019-2020



Source: ETER and ICF/CHEPS survey among representatives of funding authorities in EU Member States

Notes:

- An asterisk (\*) denotes that data are from the European Tertiary Education Register (ETER). ETER data refer to the year 2019. For the other countries, data are based on the answers given by funding authorities in the ICF/CHEPS survey to the Question: "Composition of Institutional Funding in the year 2020 (or most recent year available)".
- Data refers to publicly funded and other government-dependent HEIs.
- ETER data do not always cover the full set of HEIs in the country but are representative. Data for Austria is for public universities only. For Czech Republic, data on third party funding are not available.

## 3.3 Developments in funding mechanisms

### 3.3.1 Mapping of funding mechanisms in the EU

Table 1 summarises the funding mechanisms that are in place (in the year 2020) for the core funding of HEIs in the EU.

Table 1. Funding mechanisms in place in the EU (situation for year 2020)

Type of funding mechanism	Member States
Combination of funding types: formula funding and funding agreement, formula funding and incremental funding	AT, BE-Fr; BG, HR, CZ, DK, DE (Berlin and Lower Saxony), EE, ES, FI, IE, IT, LT, NL, PL, PT, SI
Funding formula only	BE-Flanders, HU, LV, RO, SE, SK
Funding agreement only	LU
Incremental/historical/line-item funding	CY, FR, EL, MT

Table 1 shows that most systems, i.e. 18, combine funding types, such as a formula and a contractual negotiation or a formula combined with incremental funding. For example, in Germany (Berlin), 55% of the budget is allocated on the basis of a funding agreement and 45% is allocated as non-performance-based funding (“*Sockelfinanzierung*”).

Table 1 shows that six systems rely solely on a funding formula: Belgium-Flanders, Hungary, Latvia, Romania, Sweden and Slovakia. For example, in Belgium-Flanders, core funding is allocated on the basis of a formula which includes a fixed and a variable part. The fixed part in the education formula is a scaling component that takes into account the size of the HEI. Such a fixed component is a feature in most systems that use a funding formula; it provides funding stability to the HEIs. The variable part in the Flemish formula includes the number of credits taken up by students (an input feature) and the number of diplomas awarded (an output feature). HEIs in Flanders receive extra funding for students with a disability, working students and scholarship students. Different disciplines are weighed differently.

Luxembourg is the only system which relies only on a contractual procedure – that said, the system only has one state university.

Cyprus, France, Greece and Malta make use of a system that is neither formula-based nor contract-/agreement-based, but rather incremental/historical/line item-based. The French example is particularly interesting, because the French higher education funding system has for some time employed a formula-driven performance-based funding but recently started moving to a dialogue-based performance-driven system. Box 1 below expands on the French example.

### Box 1 – From formula to dialogues: the French higher education funding system and performance

France has moved toward historically decided funding over the past years. Formula funding, which was calculated through the SYMPA<sup>17</sup> system with 20% being performance-based was in use between 2009 and 2013. However, SYMPA is no longer in use. The system was met with disagreement from the HE sector. There were three main reasons for this disagreement.

SYMPA was perceived as redirecting funds from one university to another without addressing the perceived underfunding of the sector. It was also perceived as unstable because of large variations of some indicators from one year to the next. In addition, the integration of the total payroll (*'masse salariale'*) in the SYMPA system or any system that distributes resources was also resisted by the sector. Finally, no agreement could be found regarding key indicators to assess the research mission of universities.

A contractual procedure exists in France (*contrats pluriannuels de site*), which includes some performance criteria, such as success rates, teaching and training evaluation, or international development. The contracts have been linked to marginal resources or job allocations in the past, but since 2018 this contractual procedure is not tied to specific resources.<sup>18</sup>

In 2018, the Ministry initiated and conducted an experiment with voluntary HEIs to develop annual dialogues over management and performance (*"dialogues stratégiques et de gestion"*). These dialogues were generalised in 2019, and also include research organisations, local authorities and other partners. This move toward a dialogue was created to increase discussion between State and HEIs. However, the resources attached were considered not significant enough to provide any performance-based incentives. Currently, dialogues are linked to project funding - an envelope of €30 million for projects tied to research or training-, not core funding).

It is worth noting that a large variety of PBF mechanisms exists. The PBF component can be expressed in a funding formula (e.g., in Sweden or Belgium-Flanders), a performance agreement (e.g., Denmark; Germany and Ireland), or a combination of the two (e.g., the quality agreements and funding formula in the Netherlands).

In addition, there is a wide variation across higher education systems between what the representatives of education ministries indicated as being the performance criteria included in their country's funding formulas and/or funding agreements. What they consider to be performance/PBF depends on their system's objectives for higher education and its perception of performance. For instance, Lithuania classifies its core funding system as a *voucher* system. Its funding is based on the number of state-funded students applying to an institution and this number is a measurement of the performance of HEIs in the sense that it 'rewards' the attractiveness of a HEI to students.

### 3.3.2 Overview of the use of PBF across the EU

Performance-based funding (PBF) has become a widespread mechanism for allocating core funds to higher education institutions (HEIs) in Europe. In 2020, 21 jurisdictions (countries or states) report some form of PBF for allocating core funds to their HEIs (out of 29 surveyed).

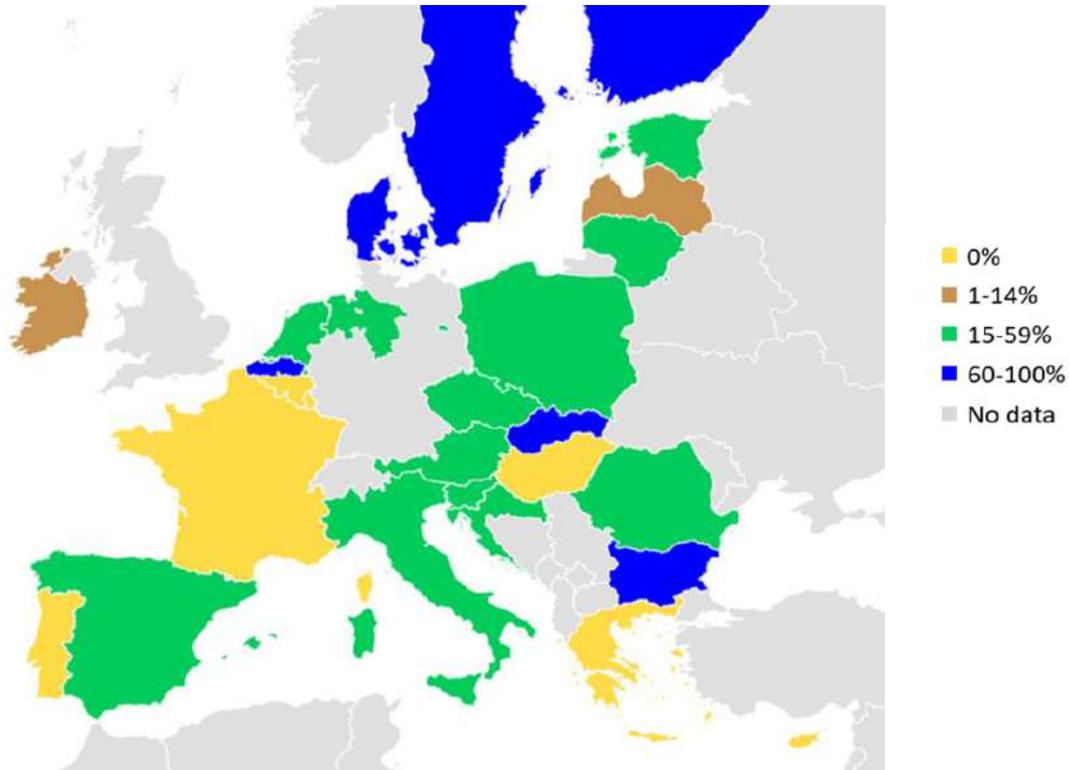
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<sup>17</sup> SYMPA stands for "Système de répartition des Moyens à l'Activité et à la Performance", System for the repartition of means toward activity and performance.

<sup>18</sup> See [https://www.senat.fr/rap/r19-130/r19-130\\_mono.html#toc66](https://www.senat.fr/rap/r19-130/r19-130_mono.html#toc66)

Figure 6 shows the share of core funds driven by criteria that refer to the performance of HEIs, based on information collected from representatives of the Member States' ministries.

Figure 6. Share of core funds tied to performance<sup>19</sup>



Source: ICF/CHEPS; based on online survey question Q6. 'What is the share (in %) of the higher education institutions' core funding budget that is directly driven by performance indicators or performance criteria? If no exact percentage is available, can you give an estimate?' ; reflected in section 3.a. of the country factsheet in Annex 1: 'Share of direct core funding (allocated through formula funding, funding contracts and/or historical and other mechanisms driven directly by performance'.

The attention given to performance in core funding systems varies greatly in the European Union. In eight higher education systems, there is no immediate link between core funds and performance (French speaking community of Belgium, Cyprus, France, Greece, Hungary, Luxembourg, Malta, Portugal). In the others, the share of core funds tied to performance differs substantially. In Figure 6, these countries are grouped in three categories: small (between 1% and 15%), moderate (between 15% and 60%) and high (between 60% and 100%), where the percentages express the share of core funds that depends on performance criteria (i.e. performance indicators, targets specified in a performance agreement). Six countries/regions have a high share of PBF (Belgium-Flanders, Bulgaria, Denmark, Finland, Sweden, Slovakia); 13 have a moderate share (Austria, Czech Republic, Estonia, Spain, Croatia, Italy, Lithuania, the Netherlands, Poland, Slovenia, Romania and the two states in Germany we surveyed, i.e. Berlin and Lower Saxony); and two a small share (Ireland, Latvia).

Data from the country factsheets in Annex 1 show that the share of PBF has increased in 17 of these cases after 2010: in Austria, Bulgaria, Croatia, Czech Republic, Estonia, Finland, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain. Plans to introduce a PBF mechanism are being discussed in Cyprus and Hungary. In a few cases, such as Germany-Berlin and France (see Box 1), the state has reduced or moved away from performance-based core funding.

<sup>19</sup> The categorisation of Spain refers to an average of the different regions based on an assessment made by the national experts we have consulted.

### 3.3.3 Performance indicators as used in PBF

To illustrate the points made above on PBF in general, we provide some examples and reflections on the performance criteria used in formulas and funding agreements.

**On funding formulas** (see Tables 2 and 3 below)

- The most frequently used education-related performance indicator in funding formulas in the EU is the number of degrees awarded (or graduation rates) – used for 15 higher education systems.
- Indicators referring to the number of students or the number of foreign students, internationally mobile students and the number of credits taken up by students are listed as input indicators. Yet, funding authorities in some higher education systems perceive them as output indicators in order to measure international attractiveness and the success of internationalisation strategies. For instance, in Lithuania, the number of enrolled students is an indicator of an institution's attractiveness, and therefore its 'voucher'-like funding system is seen as predominantly performance-based.
- Five higher education systems include measures of graduate employment as indicators in their funding formulas.
- The most frequently used research-related performance indicators refer to external research funds (third party funds) – used in 15 higher education systems – and the number of doctorates (PhDs) awarded – used in 11 countries/states.
- Thirteen higher education systems include the number of publications (in seven systems) or another assessment of research performance (six higher education systems) in the formula components that drive the institutions' (research) budgets.

In funding formulas an explicit reference to inclusiveness in education is seldom in place, although there are references to disadvantaged and/or part-time students in Ireland, Germany (Berlin), Belgium-Flanders and Romania. Gender equality for academic staff is incentivised in both Belgium (Flanders) and Germany (Lower Saxony). Some systems include funding weights for students from specific backgrounds, as illustrated in Box 2 below. We further discuss inclusion in teaching and learning in section 3.3.4.

#### **Box 2 – Incentives to broaden access to higher education in funding formulas, examples from Belgium (Flanders) and Ireland**

In **Belgium Flanders**, the funding formula applies weights – differentiated by areas of studies – to provide extra funding for students with a disability, working students or scholarship students. These weights are attributed to the following indicators: the number of credits taken up for which a student enrolls under a degree contract in an initial bachelor's program until the first 60 credits have been obtained, the number of credits acquired, and the number of credit financing points, referred to as credit contracts.

In **Ireland**, the funding formula applies a weight which varies by discipline to encourage access to eligible students from under-represented backgrounds, from targeted socio-economic groups and mature students. The weighing is applicable for the first two years of the course duration, to reflect the higher support needs during this period for under-represented groups and mature students; the weight is applicable to the entire length of the course for students with disabilities.

Table 2. Education-related indicators in funding formulas

Indicator type	description	count	system
Input	Number of students; number of students progressing well ('active students') <sup>20</sup>	16	AT, BG, DE-LS <sup>21</sup> , DE-Berlin, EL, ES, FI, HU, IE <sup>22</sup> , LT, LV, NL, PL, SE, SI, SK
	Incoming international students, students abroad, student mobility/outgoing students, internationalisation	7	CZ, DE-LS, EE, IT, PL, RO, SK
	Credits (ECTS) taken up by students	3	BE-NL, FI(UAS <sup>23</sup> ), ES
	Academic staff	2	LT, RO
	Master's to bachelor's student ratio	1	RO
	Foreign academic staff	1	CZ
	Share of faculty below 40 years of age	1	RO
	Share of permanent faculty with the right to pursue a PhD degree	1	RO
	Gender equality of academic staff	2	DE-Berlin, DE-LS
	Number of disadvantaged students	2	IE, RO
	Number of part-time bachelor degrees	1	DE-Berlin
	Floor surface	1	LT
	Programme duration	1	EL

<sup>20</sup> The number of students is defined as active students for Austria, Bachelors'/Masters for Spain; those fulfilling the eligibility criteria for Lithuania, 'number of students' in Slovakia.

<sup>21</sup> For Lower Saxony (DE-LS), the indicator refers to the total number of first year students.

<sup>22</sup> The number of students is weighed by costs in different disciplines in Ireland.

<sup>23</sup> UAS = Universities of Applied Sciences.

Indicator type	description	count	system
Output	Graduation rates, ECTS attained, diplomas and degrees awarded, including in priority areas such as teacher education	15	AT, BE-NL, CZ, DE-LS <sup>24</sup> , DE-Berlin <sup>25</sup> , DK <sup>26</sup> , EE <sup>27</sup> , ES, FI <sup>28</sup> , LV, NL, PL, SE, SI, SK
	Graduate employment	5	CZ, DK, EE, FI, PL
	Teaching evaluation/quality of education & teaching/accreditation status	3	BG, DK, IT
	Accreditation and/or evaluation results/status of university (excellence initiative)	2	BG, PL
	Graduate employment	2	BG, FI
	Student feedback	1	FI
	Student achievements	1	IT
	Share of international graduates	1	EE
	Income generated from education	1	EE
Proportion of HEI income generated by educational activity	1	EE	

Note: For country codes, see [here](https://ec.europa.eu/eurostat/statistics-explained/index.php). [https://ec.europa.eu/eurostat/statistics-explained/index.php]

Table 3. Research-related indicators in funding formulas

Indicator type	description	count	system
Input	Number of research staff or academic staff	4	AT, HU, IT, PL
	R&D expenditure	2	PL, RO
	Number of qualified teaching staff, including <i>habilitation</i>	2	EL, SI
	Doctoral schools	2	AT, PL
	Appointment of external researchers	1	BE-NL
	Research staff with a doctoral degree	1	LV
	Number of masters and doctoral graduates employed as leading researchers	1	LV

<sup>24</sup> For Germany-Lower Saxony (DE-LS), the number of graduates is weighed by the time it takes to get a degree based on the standard study period.

<sup>25</sup> In Germany-Berlin (DE-BE) the number of degrees in teacher training programmes is an indicator reflecting a priority area.

<sup>26</sup> For Denmark, degrees take into account the average time for students to complete their studies against each institution's baseline target, which consists of the prescribed lengths of the offered programmes plus 3 months.

<sup>27</sup> For Estonia, share of students who graduated within a nominal timeframe, out of all admitted students

<sup>28</sup> Finland applies coefficients for graduation time to the number of degrees awarded.

Indicator type	description	count	system
	Teaching staff with a doctoral degree or higher scientific publications	1	HU
	Number of professors (of art)	1	LV
	Internationalisation of academic staff	1	IT
	Staff recruitment policies	2	BG, IT
	Human resource quality	1	RO
	Financial resources for the remuneration of scientific staff	1	LV
	Financial resources for the maintenance of the scientific institution	1	LV
	Access to databases	1	LV
<b>Output</b>	External research funds generated	15	AT, CZ, DE-Berlin, DE-LS, DK, FI, IE, IT, LT, LV, PL, RO, SE, SI, SK
	Number of doctorates, including research students or awarded doctorate & collaborative PhDs	11	AT, BE-NL, DE-Berlin, DE-LS, DK, FI, HU <sup>29</sup> , IE, LV, NL, PL
	Number of publications, including PhD theses	7	BE-NL, BG, DK, FI, LV, SI, DE-Berlin
	Research performance/ evaluation/ activity/ status of university (excellence initiative)	6	CZ, IT, LT, PL, RO, SK
	Number of (research related) bachelors' and masters' degrees	4	BE-NL, FI(UAS), LV, NL
	EU research funds won; International research grants	3	LT, LV, PL
	Impact of publications/ scientific activity	2	BG, RO
	Bibliometric indicators	3	BE-NL, DK, SE
	Fellowships and research prizes awarded	2	DE-LS, DE-Berlin
	Number of doctorates awarded to women	1	DE-Berlin
	Number of research projects	1	PL
	Intellectual property & revenue from IP rights	1	LV
	Knowledge transfer metrics	1	IE

Note: For country codes, see [here](https://ec.europa.eu/eurostat/statistics-explained/index.php). [https://ec.europa.eu/eurostat/statistics-explained/index.php]

<sup>29</sup> Number of state-financed doctorates for Hungary

## On performance agreements

Performance agreements include institution-specific goals and actions to achieve goals. Performance agreements can be used to encourage performance, support HEIs in strengthening their institutional profile and their strategic management, enhance the strategic dialogue between HEIs and their funding authorities/ Ministries, taking into account the country's strategic objectives, or to strengthen accountability and transparency about the HEIs' achievements.

Performance agreements often include quantitative indicators, i.e. targets, next to qualitative elements, say, intentions, commitments. Performance agreements are sometimes connected to (parts of) the formula funding (e.g., in Denmark and Germany - Berlin). Box 3 explains how performance agreement include performance criteria in Croatia.

### Box 3 – Performance-based criteria in performance agreements in Croatia

The **Croatian** government has a four-year performance contract for public universities, polytechnics and colleges. The concept of performance contracts was developed from 2010/2011 by the Ministry of Education and Science in cooperation with the World Bank and public universities to promote dialogue between ministries and universities at the level of objectives and outputs, thus replacing traditional mechanisms focused primarily on inputs. They should also legitimise the allocation of public funds through achieving transparency in funding criteria.

The contract defines objectives, activities and results, performance indicators as well as the dynamics of submitting reports on the implementation of the contracts.

Program funding for teaching, research and the arts consists of core funding and performance-based funding. Performance-based funding amounts to up to 5% of the basic funding of material costs of teaching activities and 20% of the costs for research. The amount takes into account the number of graduates in a given year and the number of students enrolled in the first year.

The goals for the performance-based funds depend on negotiations with each university, while taking into account national standards and objectives, e.g., with respect to internationalisation, quality assurance and inclusiveness. An adjustment was made in 2015 in order to introduce nationwide indicators in addition to institution-specific ones, because not all universities were in a position to meet the targets in their performance agreements; resulting in wide variations across the system.

Specific performance targets and associated indicators are negotiated with each university and payment is dependent on the achievement of these targets.

The Croatian Government is planning to introduce new 'programme agreements' of two years in order to better link evaluation results to institutional programme funding in teaching and research.

Performance agreements tend to include both education and research objectives. When it comes to education, the main criteria/targets included in performance agreements, as evidenced in the country factsheets for Annex 1, relate to:

- Addressing student demands and labour market needs (Austria, Croatia, Germany, Finland, Ireland, the Netherlands, Luxembourg)
- Internationalisation (Austria, Croatia, Denmark, Finland, Germany, Ireland, Italy, Slovenia).
- Encouraging inclusion, diversity and the students' study success (Austria, Germany, Ireland, Luxembourg, the Netherlands).

The targets in the agreements that relate to research cover the institutions' ambitions around issues such as:

- the generation of competitive research revenues (Austria, Croatia, Germany, Luxembourg)
- internationalisation (Austria, Denmark, Germany, the Netherlands)
- encouraging excellence in research (Croatia, Denmark, Finland, Luxembourg, the Netherlands).

### 3.3.4 Revisions of PBF

PBF approaches in funding are regularly revised by the funding authorities, for example through the introduction of new indicators and funding criteria. Respondents from almost all higher education systems have reported key reforms between 2010 and 2020, with reforms ongoing or planned in nine higher education systems.

At the date of data collection, reforms were under way in Greece, Hungary (which has introduced PBF in September 2021) and Poland to reduce the share of historically determined allocation. Revisions of performance indicators are planned in Slovenia, Estonia and Latvia. For example, the Estonian Ministry aims to review performance indicators in 2021 (due to the beginning of the new education strategy for 2021-2025 and the end of the HEIs' administrative contracts), potentially leaving out the indicator on the share of international students given that the target had been achieved. The Latvian Ministry of Education and Science expects to adjust its three-pillar funding model, gradually increasing the pillar linked to performance based-funding to 20%; adding qualitative indicators; and introducing a performance element to the first pillar, for example through the addition of the number of graduates as indicators.

Other reforms were planned in Romania to adjust the financing system to national objectives as well as to support universities that are part of European University Alliances. The 2020 Strategic Plan of the Czech Ministry of higher education includes an amendment of the Higher Education Act which could imply reforms to the higher education funding system. A reform of the funding system may still be planned in Denmark following the conclusions of a 2018 advisory group on potential new funding models for higher education. A review of the funding systems is ongoing in Ireland with the support of the European Commission through the Structural Reform Support Service (SRSS). Plans to increase financial resources to education are underway in Slovakia.

Revisions of (PBF) funding systems are sometimes based on government-initiated evaluations of their effectiveness, but the number of such comprehensive evaluations is low<sup>30</sup>.

### 3.3.5 Considerations on data collection and performance monitoring

An important condition to understand the impact of PBF on higher education funding relates to data collection and performance monitoring.

All higher education systems have a data collection system in place to monitor their higher education institutions' performance, as well as to feed this data into the funding formula or agreement (see Annex 1). The information is also used to inform decisions on the amount of funding allocated (or possibly withheld) through performance agreements. The data may be

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<sup>30</sup> One of the countries with a substantial body of evaluations on the impact of reforms in higher education funding system or performance-based funding in Europe is Finland (see country factsheet in Annex 1). We touch upon the issue of the impact of PBF in section 4.

collected from various sources, as is the case for the *HaridusSlim* system in Estonia or the *Vipunen* data portal in Finland, with one of the sources being HEIs themselves.

HEIs in many systems report on quantitative indicators as part of PBF (Austria, Belgium-Flanders, Bulgaria, the Czech Republic, Germany-Berlin and Germany-Lower Saxony, Denmark, Estonia, Greece, Finland, Croatia, Hungary, Lithuania, Luxembourg, Latvia, the Netherlands, Romania, Slovenia, Sweden). HEIs also report on qualitative measures, mostly as part of the performance agreements (Austria, Croatia, Germany-Berlin, Denmark, Estonia, Finland, the Netherlands). Only a few systems collect qualitative indicators separately from performance agreements. Italy, Lithuania and Portugal in particular run regular research evaluation exercises based on peer-reviews. In many higher education systems, the collected data is made publicly available.

Box 4 below shows the example of Austria to provide further details regarding data collection and performance monitoring.

#### **Box 4 – Data collection and performance monitoring, the Austrian example**

In Austria, HEIs report to the Government using a publicly available “knowledge scoreboard” (*Wissensbilanz*), which includes both qualitative and quantitative indicators; publicly available through the university data warehouse of the Federal Ministry of Science, Research and Economy.

Using the “Knowledge Scoreboard” the Federal Ministry draws up a comprehensive report about the performance of all universities and presents the results to the Austrian Parliament every three years. If HEIs fail to meet the targets defined in the performance agreements, the Federal Ministry discusses “adequate corrections and consequences” in the following cycle of negotiations.

Monitoring is also based on individual universities’ annual reports (*Entwicklungsberichte*) that reflect on the universities’ strategic development plans, i.e. their *Entwicklungspläne*, in which public universities set their own strategic objectives and directions.

### **3.3.6 Incentives for inclusion and innovation**

Analysing financial incentives included in funding formulas and performance agreements used across the EU helps to address the second research question (‘To which extent do PBF models provide incentives for achieving the policy goals of inclusion and innovation in teaching and learning?’) we now look at the financial incentives included in the funding formulas and performance agreements used across the EU.

From the information presented above, in particular, section 3.3.3, we conclude that, in general, innovation and inclusion in teaching and learning (T&L) are indeed included in some of the PBF systems; but an explicit reference is only present in a handful of higher education systems.

**Regarding inclusion**, in PBF systems using funding formulas, the most commonly used indicators are the number of students and degrees, which admittedly does not constitute a direct way to tackle inclusion. Other references include the following:

- In Ireland, the review of the funding model in 2017 led to a change in the formula to include disadvantaged students in the funding formula through higher weighting for students from under-represented backgrounds.
- In Romania the funding formula includes the ‘capacity to integrate people from disadvantaged socio-economic backgrounds in educational programs’, which accounts for 5% of the score of a HEI in a funding formula. (see the Romania template in Annex 1 for further information).

- Since 2008, HEIs in Italy have been invited to choose indicators that reflect their efforts to improve student access, strengthen student services and reduce inequalities among students as part of the performance-based quota in the formula, which accounts for 30% of overall funding for a HEI.

Performance agreements can also leave room for higher education institutions to promote inclusion. In these cases, inclusion is translated into targets that refer to accessibility of higher education for students from minorities, mentoring and supporting disadvantaged students, encouraging equal opportunities, gender equality, innovations in teaching and learning and improvements in the quality of teaching and learning.

- For example, in the Netherlands the performance agreements (the Quality Agreements, and their predecessors, the performance agreements) include accessibility and equal opportunities as criteria.
- Another example is Germany-Berlin, where the funding system rewards gender equality as assessed through the number of female professors or the number of male students in 'childhood education' programmes.
- The 2012-15 funding contracts in Croatia took into account the number of students with disabilities, mature students, and students from low socio-economic background, but also the share of graduates who were first-generation students.
- Gender equality is included in contracts between the university and the Government in Luxembourg.

Other funding instruments can also include inclusion objectives. For example, Denmark earmarks grants of about 1.66 million euros for higher education institutions outside of the main university cities to promote access to higher education in rural areas. And HEIs also receive dedicated national or EU funding to encourage inclusion and innovation: for example, through the European University Alliances, for which inclusion and innovation are key priorities. We will cover the European University Alliances more extensively in section 5.

**Regarding innovation in teaching and learning**, there is a greater focus on improving educational and teaching quality in education in funding mechanisms than explicitly on innovation, as is the case for example in Italy and the Netherlands. For example, quality Agreements (2019-2024) were introduced in 2018 in the Netherlands to improve the quality of education. Institutions were asked to submit concrete quality improvement plans, which can include innovation in teaching and learning. Innovations in teaching & learning (T&L) are also addressed in quality assurance exercises and encouraged in particular by means of dedicated program funding. There is no direct financial incentive incorporated in the funding formula that addresses innovations in teaching and learning, as this is largely seen as a matter that is part of the ongoing attention that HEIs have for the quality of their education. However, some additional incentives are provided through project funding provided by national organisations such as Netherlands Initiative for Education Research, NRO (a part of NWO, the research council) to encourage innovations in teaching and learning.

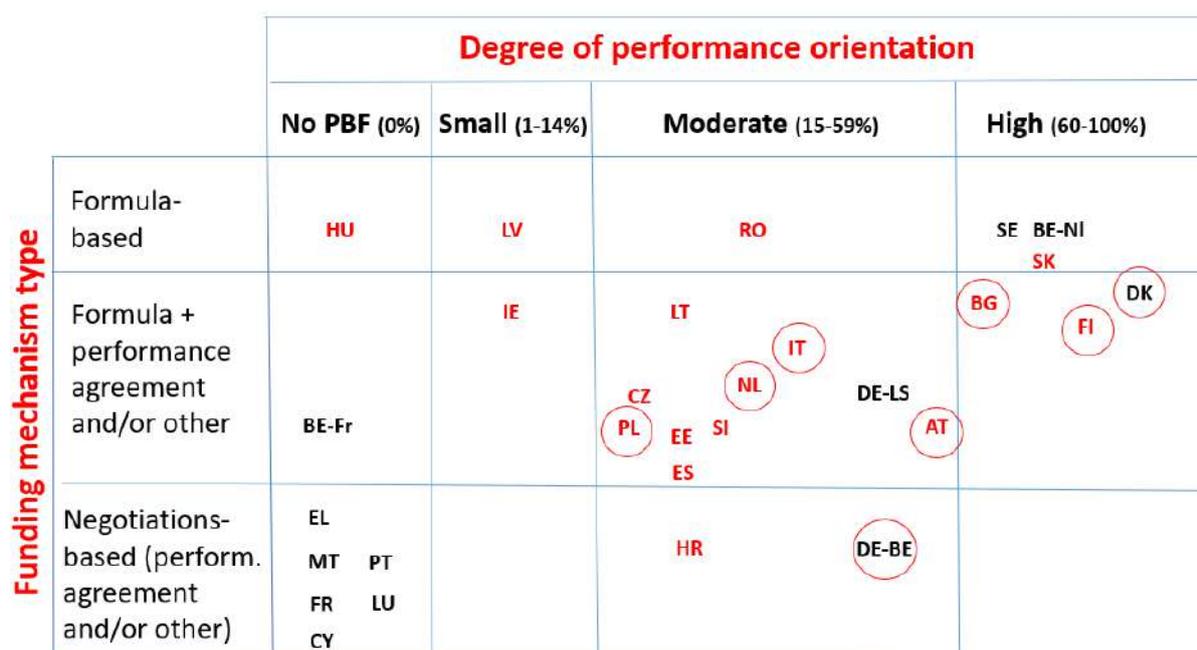
In Italy, Innovation in teaching and learning is supported by the triennial programme (*Programmazione Triennale*) of 55-65 million euros annually. This programme gives the possibility to universities to invest in a wide range of initiatives based on programmes to develop, i.e. teaching, student service, research, internationalisation etc. Some universities have innovated as part of this fund, for example, activating other services they may not have been able to activate before. Innovation funded by the *Triennale programme* has not reached all universities however, because some institutions did not prioritise innovation, while others used the triennial programme to cover current costs (personnel particularly). In this sense, this imbalance in access to the programme cannot be directly linked to the PBF system, but they may occur if there is no strategic planning and connection between strategy and performances.

The emphasis on innovation is more marked in research, through research indicators and criteria related to the number of patents, publications, research projects, and technology transfer (see table 3.3 above). For example, Ireland has a discretionary fund to supplement core funding to fund specific initiatives, including innovation in research, as part of the Strategic and Performance Dialogue framework.

### 3.4 Conclusions

Summing up the results from our mapping of funding systems, Figure 7 provides a combined overview of the share of core funds tied to performance ('degree of performance orientation' - horizontally) and of the 'type of funding mechanisms' (vertically) in order to cluster higher education funding systems. The *vertical* position of a system vis-à-vis others denotes the importance of formula funding; the *horizontal* position denotes the share of core funds tied to performance. In addition, higher education systems which are circled (eight in total) were selected as *case studies* for our study's evaluation phase; and the systems in red are those having increased their share of performance-based funding since 2010.

Figure 7. Type of funding mechanism and share of funds tied to performance



Source: ICF/CHEPS

Legend: In the countries/states shown in red, the share of PBF has increased over the period 2010-2020. The circled countries/states (8 in total) were selected as case studies for our study's evaluation phase. For country codes, see [here](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Country_codes). [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Country\_codes]

Figure 7 highlights the key findings emerging from this section:

- The most popular funding approach is a combination of a moderate degree of performance orientation (15-59%) together with a funding formula and a performance agreement as discussed in the previous sections. This is the case for 10 higher education systems: Austria, the Czech Republic, Estonia, Germany (Lower Saxony), Italy, Lithuania, the Netherlands, Poland, Slovenia, and Spain.

- Six systems have a high level of performance orientation (Belgium-Flanders, Bulgaria, Denmark, Finland, Sweden, Slovakia). And eight systems have no funds tied to performance (French speaking community of Belgium, Cyprus, France, Greece, Hungary, Luxembourg, Malta, Portugal).
- PBF has become a widespread mechanism used in higher education systems for distributing core funding to HEIs. 21 higher education systems reported having some form of PBF for allocating core public funding to their higher education institutions. In general, performance elements can be included in various mechanisms: a funding formula, a performance agreement, or a combination of the two. However, the definition of performance is context-dependent: it depends on the system's objective and perception of performance.

In addition, section 3.3 showed that:

- Since 2010, the share of performance-based funding has increased in 17 higher education systems. In the past decade, PBF approaches have regularly been revised through the introduction of new indicators and funding criteria. Respondents from almost all higher education systems have reported such key reforms between 2010 and 2020. In some systems, performance agreements were introduced, or additional performance criteria were added to a funding formula.
- EU higher education systems have moved from formula-/ indicator-based systems to more dialogue-based funding systems over the period 2010-2020. Performance agreements have been increasingly used. For example, performance agreements were introduced to complement formulas in Austria in 2015; Luxembourg in 2014; the Netherlands in 2013 and Slovenia in 2017. Performance agreements were also introduced in Croatia in 2018, where there is no formula funding.
- Performance agreements are a tool that can be used to incentivise performance according to national objective, including the goal of encouraging innovation and inclusion in teaching and learning and to support the HEIs to strengthen their institutional profile and strategic management. Performance agreements also encourage strategic dialogues between HEIs and funding authorities/Ministries taking into account the system's strategic objectives. For example, qualitative targets can also be included to focus attention on dimensions such as inclusion, internationalisation, engagement, and innovations in teaching & learning. Finally, performance agreements strengthen accountability and transparency about the HEI's achievements.
- Frequently used performance indicators in funding formulas are the number of degrees provided by a HEI and its graduation rates.
- Internationalisation indicators, such as measures of international enrolments or students' international mobility, are included in some formulas and performance agreements used across the EU.
- All higher education systems have a data collection system in place to monitor higher education performance, largely based on quantitative indicators.

The next section elaborates on the impact of PBF and provides some examples of interesting practices encountered in the EU, focusing on the eight case studies selected for the evaluation phase highlighted in Figure 7.

## 4 Performance-based funding and its impact

### 4.1 Introduction

This section focuses on the impacts of PBF systems, including the effects on inclusion and innovations in teaching and learning. The section focuses on information collected through our literature review and our detailed case studies of the PBF systems in eight higher education systems. The section:

- starts by providing an overview of what we know from the existing literature about the impact of PBF (4.2);
- It then details the impacts of PBF across the eight case studies (4.3);
- before summarising the main findings (4.4).

### 4.2 What do we know from existing literature about the impact of PBF?

Available overview studies and meta reviews on PBF that synthesise the existing research on the impact of PBF<sup>31</sup> often have difficulty drawing firm conclusions on the matter, or at best find no effect at all, as reflected in section 2. There is little research on the impact of PBF on teaching and learning. Some research on the impact of PBF on education has also been conducted in Nordic countries<sup>32</sup> and the Netherlands.<sup>33</sup> These studies indicate that the success of PBF in improving completion and graduation has been limited.<sup>34</sup> The widest body of research focuses on the experience of the USA<sup>35</sup>. Box 5 provides an example of such a body of research with the state of Tennessee, which was the first to implement a performance-based funding system in the US.

#### Box 5 – Outcome-Based Funding in Tennessee, US

Tennessee was the first US State to implement performance-based funding for the core funding of education in public higher education institutions. The main funding is distributed using a formula which covers 85% of Tennessee's appropriations to higher education institutions – the Outcome-Based Funding – while institutions can earn an additional 5.45% of the equivalent of their operational costs through the "Quality Assurance Funding" when achieving some objectives<sup>36</sup>. Indicators in the formula differ for 2- and 4-year institutions, while their weights are dependent on individual institutions to account for different missions. The formula targets persistence and completion and include equity premiums for the progression and completion of focus populations.

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<sup>31</sup> E.g., Hillman et al., 2015; Kivistö & Kohtamäki, 2016; Ortagus et al., 2020.

<sup>32</sup> Aagaard, 2015; Kivisto et al., 2017; Mouritzen & Opstrup, 2020

<sup>33</sup> Jongbloed et al., 2019.

<sup>34</sup> OECD (2020), Resourcing higher education, Paris: OECD.

<sup>35</sup> Hillman, N. (2016). Why performance-based college funding doesn't work. The Century Foundation Think Tank; Umbridge, M.R., Fernandez, F., & Ortagus, J.C. (2017). An examination of the (un)intended consequences of performance funding in higher education. *Educational Policy*, 31.5: 643-673; Kelchen, R. (2018). Do performance-based funding policies affect underrepresented student enrolment? *The Journal of Higher Education*, 89: 702-727.

<sup>36</sup> Dougherty et al. (2014). Implementing performance funding in three leading states: Instruments Outcomes and Unintended impacts. CCRC Working Paper No. 74; "QAF One Pager 2020-25." Retrieved from <https://www.tn.gov/content/dam/tn/thec/bureau/aa/academic-programs/qaf/QAF%20One%20Pager%202020-25.pdf>

Evidence pre-dating the implementation of the outcome-based formula have shown that, in Tennessee, both the 1997 addition of retention and graduation rates in the PBF model and the later doubling of the funds linked to these indicators did not change retention rates.<sup>37</sup> More recently, research have evaluated the implementation of the Complete College Tennessee Act with mixed results. At universities, PBF seems to have had no impact on Bachelor's degrees, total degrees, or 1st to 2nd year retention.<sup>38</sup> Early results showed, however, a positive impact on timely Bachelor's completion and students accumulating 24 and 48 credits.<sup>39</sup> At community colleges, the research shows a positive impact on certificates, but no impact on associate degrees,<sup>40</sup> hinting at the fact that community colleges might divert students to shorter easier completion.

According to the literature, the Tennessee system has failed at improving equity. Research shows that the number of adult students at community colleges has been negatively impacted, and so has underrepresented minority students' certificate, associate degree and Bachelor's degree attainment.<sup>41</sup> Similarly, part-time students have been mostly negatively impacted by the PBF system.<sup>42</sup>

At the institutional level, there is evidence that the PBF system has led to stronger focus on completion, with many programs implemented to improve completion.<sup>43</sup>

Causality between the use of performance-based research funds and changes in publication patterns is also difficult to prove regarding the impact of PBF on research funding,<sup>44</sup> One of the most contested issues in both science policy studies and broader academic discussions is the study of its impacts – both the intended (say, positive) impacts on performance, and the unintended (say, negative or perverse) effects.<sup>45</sup> Benchmarking and descriptive studies suggest some association between PBF and higher education system performance.<sup>46</sup> The unintended negative consequences of performance-based research funding that are mentioned most frequently are risk-avoiding behaviour among researchers, who may tend to focus more on easily achievable outputs instead of undertaking risky research. The experience of the United Kingdom has provided some interesting insights in this respect (see Box 6).

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<sup>37</sup> Sanford, T., & Hunter, J. M. (2011). Impact of performance funding on retention and graduation rates. *Education Policy Analysis Archives*, 19, 33.

<sup>38</sup> Hillman, N. W., Hicklin Fryar, A., & Crespin-Trujillo, V. (2018) Evaluating the impact of performance funding in Ohio and Tennessee. *American Educational Research Journal*, 55(1), 144-170; Ward, J. & Ost, B. (2021). The Effect of Large-scale Performance-Based Funding in Higher Education. *Education Finance and Policy* 16(1): 92–124.

<sup>39</sup> Callahan. M.K. at al. (2017). Implementation and Impact of Outcomes-Based Funding in Tennessee. Research for Action. Retrieved from <https://www.researchforaction.org/publications/implementation-impact-outcomes-based-funding-tennessee>

<sup>40</sup> Li, A. Y., & Ortagus, J. C. (2019). Raising the stakes: Impacts of the Complete College Tennessee Act on under-served student enrollment and sub-baccalaureate credentials. *The Review of Higher Education*, 43(1), 295-333.

<sup>41</sup> Li, A.Y., & Ortagus, J.C. (2019); Chan, M., Mabel, Z., & Mbekeani, P. P. (2021). *Incentivizing Equity? The Effects of Performance-Based Funding on Race-Based Gaps in College Completion*. EdWorkingPaper No. 20-270.

<sup>42</sup> Callahan. M.K. at al. (2017). Implementation and Impact of Outcomes-Based Funding in Tennessee. Research for Action.

<sup>43</sup> Ness, E. C., Deupree, M. M., and Gundara, D. (2015). *Campus Responses to Outcomes-Based Funding in Tennessee: Robust, Aligned, and Contested*. Nashville: Tennessee Higher Education Commission.

<sup>44</sup> See, e.g., Hicks, D. (2012). Performance-based university research funding systems. *Research Policy*, 41(2), 251-261 and Debackere, K. et al. (2017). *Performance-based funding of university research*. Brussels: Publications Office of the European Union. See also: Schneider, J. W., Aagaard, K., & Bloch, C. W. (2017). Reply to van den Besselaar and Sandström. *Research Evaluation*, 26(4), 352-352.

<sup>45</sup> Sivertsen, G., & Aagaard, K. (2017), The effects of performance-based research funding systems, *R-QUEST Policy Brief*, 2, 1-4.

<sup>46</sup> Mathies, C., Kivistö, J., & Birnbaum, M. (2020). Following the money? Performance-based funding and the changing publication patterns of Finnish academics. *Higher Education*, 79.1: 21-37.

### Box 6 – The Research Excellence Framework in the United Kingdom

Since 1986, a performance-based funding research exercise – formerly the *Research Assessment Exercise* (RAE), and now known as the *Research Excellence Framework* (REF) – has been held regularly in the UK. Currently, the outcome of the REF dictates the distribution of around €2,3 billion<sup>47</sup> in research funding annually for the next 5 to 7 years.<sup>48</sup> It represents about 65% of block grant funding for research.<sup>49</sup>

The REF evaluates research quality, non-academic impact, and the research environment. Institutional submissions include research outputs for all independent researchers, impact case studies, and profiles describing the research environment.

There is no direct evidence showing that the RAE/REF is linked to improvements in research performance at UK universities, except for the 1989 exercise that seems to have helped reverse a trend of declining citation impact in the UK.<sup>50</sup> Still HEIs generally perceive the REF as a driver of research quality, as well as a way for universities to know their own research strengths and weaknesses better – internally and through benchmarking.<sup>51</sup>

However, the REF raises some concerns. There are few interdisciplinary outputs submitted to the REF, which might indicate that it discourages interdisciplinary work. In addition, evidence shows that the REF encourages research teams to pursue low-risk research with short-term outputs and publishing in mainstream journals, which can potentially curtail innovative research.<sup>52</sup>

The REF handling of the impact agenda also dictates a vision of impact that negates the non-linear and indirect nature of research impact. Similarly, to what happens in research, impact has become homogenised through the REF exercise, with a large emphasis on policy impact while disregarding other more fragmented and harder to measure forms of impact.<sup>53</sup> Further, a high REF impact has been correlated with larger HEIs and raising more external income, therefore potentially contributing to research income inequality. REF funding is indeed highly concentrated within a small number of institutions.<sup>54</sup>

There are also concerns about the administrative burden that the REF imposes on HEIs in terms of time and financial resources.<sup>55</sup> It is estimated that the 2014 exercise cost 295,049 million euros (£246 million).<sup>56</sup>

The example of the REF illustrates how funding allocation can shift the emphasis of research and researchers' work and their reputation (and following from this research output)<sup>57</sup>.

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<sup>47</sup> 1 GBP = 1,16209 EUR (2/07/2021)

<sup>48</sup> Will the latest UK Research Excellence Framework turn out to be the last?, in *Nature*. 2020 Feb; [No author listed].

<sup>49</sup> Arnold, A. et al (2018). *Review of the Research Excellence Framework: Evidence Report*. Technopolis Group

<sup>50</sup> Arnold, A. et al (2018). *Review of the Research Excellence Framework: Evidence Report*. Technopolis Group

<sup>51</sup> Department for Business, Energy and Industrial Strategy (2016). *Building on success and learning from experience: An independent review of the Research Excellence Framework*. IND/16/9.

<sup>52</sup> Arnold, A. et al (2018); Murphy, T. (2017). Revising the Research Excellence Framework: ensuring quality in REF2021, or new challenges ahead?. *Perspectives: Policy and Practice in Higher Education*, 21(1), 34-39.

<sup>53</sup> Ní Mhurchú, A., McLeod, L., Collins, S., & Siles-Brügge, G. (2017). The Present and the Future of the Research Excellence Framework Impact Agenda in the UK Academy: A Reflection from Politics and International Studies. *Political Studies Review*, 15(1), 60–72.

<sup>54</sup> Arnold, A. et al (2018); Pinar, M., & Unlu, E. (2020). Evaluating the potential effect of the increased importance of the impact component in the Research Excellence Framework of the UK. *British Educational Research Journal*, 46(1), 140-160; 'Will the latest UK Research Excellence Framework turn out to be the last?' (2020).

<sup>55</sup> 'Will the latest UK Research Excellence Framework turn out to be the last?', op. cit.

<sup>56</sup> Idem.

<sup>57</sup> Hicks, D. (2012), Performance-based university research funding systems. *Research Policy*, 41(2), 251-261.

The following section builds on this overview of the key points from the literature by providing further information regarding our findings from eight country case studies on the impact of PBF systems in the EU.

## 4.3 The impacts of PBF in the eight case studies

### 4.3.1 Introduction to the eight case studies

The eight systems selected as case studies – Austria, Germany-Berlin, Bulgaria, Denmark, Finland, Italy, the Netherlands, and Poland – vary in terms of their funding mechanisms. The shares of core funding based on performance varies from 15% in Poland to 85% in Denmark. In addition, while all these systems use a formula to distribute their core funding, six also make use of funding contracts – Poland and Italy being the exception. The indicators in table 4 focus on output & outcomes indicators in formulas and performance agreements/contracts across the eight case studies.

Table 4 shows that the most popular output/outcome indicators across the eight case studies are similar to those presented in section 3, including number of degrees awarded (Austria, Denmark, Finland, Germany – Berlin, Netherlands) or graduate employment (Bulgaria, Finland, Denmark). In research, the number of awarded PhDs is also a popular metric (in Austria, Bulgaria, Finland, Germany-Berlin, and the Netherlands).

Table 4. Description of the eight selected performance-based funding systems

	AUSTRIA	BULGARIA	DENMARK	FINLAND	GERMANY - BERLIN	ITALY	NETHERLANDS	POLAND
<b>Share of PBF in total core funding of HEIs (estimate)</b>	55%	60%	85%	76%	50%	30%	26%	15%
<b>Output/ outcome indicators used in formula</b>	<ul style="list-style-type: none"> <li>• Number of graduates</li> <li>• Students actively taking exams</li> <li>• Particularly active students (i.e. taking more than 40 ECTS)</li> <li>• Third party funding</li> <li>• Doctoral schools</li> </ul>	<ul style="list-style-type: none"> <li>• Scores received in programme &amp; institutional accreditations</li> <li>• Evaluation of teaching</li> <li>• Exclusive academic staff</li> <li>• Graduate earnings &amp; graduate employment</li> <li>• Number &amp; impact of publications</li> <li>• PhDs</li> <li>• Patents</li> <li>• Number &amp; citation rate of publications and patents</li> <li>• Professional PhDs</li> </ul>	<ul style="list-style-type: none"> <li>• ECTS attained by students</li> <li>• PhDs</li> <li>• Bibliometrics</li> <li>• External grants</li> <li>• Survey-based quality measurement</li> <li>• (Graduate employment and time-to-degree temporarily put on hold)</li> </ul>	<ul style="list-style-type: none"> <li>• Degrees</li> <li>• Graduate employment</li> <li>• Publications</li> <li>• External / competitive grants won</li> <li>• PhD degrees</li> <li>• Student feedback</li> <li>• ECTS in continuous learning</li> </ul>	<ul style="list-style-type: none"> <li>• Enrolments within normative time-to-degree</li> <li>• Enrolment of vocationally qualified students</li> <li>• Degrees</li> <li>• External grants</li> <li>• Fellowships &amp; prizes won</li> <li>• Collaborative PhDs</li> <li>• Gender equality of academic staff</li> <li>• Degrees in teacher education</li> <li>• Part-time BA degrees</li> </ul>	<ul style="list-style-type: none"> <li>• National research assessment</li> <li>• HR policy (attractiveness in term of faculty recruitment)</li> <li>• Choice of indicators reflecting improvements in education and research quality (including access, student services, and international student mobility)</li> </ul>	<ul style="list-style-type: none"> <li>• Enrolments within normative time-to-degree</li> <li>• Degrees</li> <li>• PhDs</li> </ul>	<ul style="list-style-type: none"> <li>• Research evaluation exercise grades (A-C)</li> <li>• External grants/ Project funding won</li> <li>• Internationalisation of staff &amp; students</li> </ul>
<b>Funding contract/ performance agreement</b>	Performance contract (3 years)	Management contract with rector (currently only link to rector's salary)	Strategic Framework Contract (4 years)	Performance agreement (4 years)	<i>Hochschulvertrag</i> (5 years)	No contract	Quality agreement (6 years)	No contract

### 4.3.2 Positive effects of PBF

The section below summarises the positive effects of performance-based funding systems listed in Annexes 1 and 2. Relevant information is collated in table 5 at the end of the section.

#### 4.3.2.1 Impacts on education

As far as education is concerned, performance-based funding systems are most often linked to improvements in the study progression and completion of students. Finland, Denmark, the Netherlands and Berlin noted improvements in degree completion as one of the main positive effects of their performance-based funding systems. In the Netherlands, the performance agreements that were in place during the period 2013-2016 contributed to lower dropout in the research universities, while in Finland study progress improved. In Finland and Denmark, lower time-to-degree has also been linked to the performance-based funding systems.

Although details vary and evidence is scarce, in Finland, Bulgaria, Italy and Poland, performance-based funding is linked to more attention given to and/or an improvement in the overall quality of teaching. Box 7 reports some experiences from Finland and Austria, where PBF systems are linked to changes in institutional behaviour in terms of setting up more/better student guidance and mentoring.

#### **Box 7 – Greater student guidance and mentoring**

The positive effects on training of performance-based funding systems are often the result of a change in institutional behaviour. To achieve their performance objectives – particularly when it comes to student progression or quality of training, HEIs tend to increase student support. This is the case in Finland, where student guidance, personalised learning paths, preventive care and early interventions have made the higher education experience more student-centred.

In Austria, one of the motivations behind the PBF system is to increase the quality of teaching, which should happen explicitly through increased supervision ratios. In addition, in order to increase active students (those who take more than 16 ECTS per academic year) and completion rates, institutions have developed programs to support students at the beginning of their studies, including tutorials, better communication on expectations for study performance, or being more flexible with required orientation programmes to avoid students being unable to progress in their studies.

#### 4.3.2.2 Impacts on inclusion and innovation in teaching and learning

As already mentioned in section 3.3.6, the different systems have made various efforts to encourage inclusion through incentives built into their performance-based systems. However, robust evidence that performance-based core funding systems have had an impact on inclusion and innovation is scarce. According to the country experts consulted for this study, Finland is one of the few systems that reported some indirect positive consequences of the performance agreements on innovation in teaching and learning – more student-centred approaches to higher education – and innovation – increased digitalisation of higher education.

#### 4.3.2.3 Impacts on research performance

The number of publications, bibliometric indicators and the volume of third-party funding generated by HEIs are frequently used research indicators for performance-based funding systems (see section 3.3). Of our eight case studies, only the Netherlands does not include any of these indicators in its funding formula, although it does use the number of PhDs conferred.

Performance-based research funding systems are often linked to improvement to the quality of research in general, as is the case in Finland, Germany-Berlin, Italy, and Poland. Interestingly, Finland was the only system to also report an increase in the number of publications. Additionally, in both Denmark and the Netherlands, an increase in the number of PhDs was also considered as a positive consequence of the performance-based funding system. Box 8 below provides further details on the example of Denmark.

#### **Box 8 - Denmark's research indicators**

The use of performance-based funding, and most specifically bibliometric indicators, in Denmark has not led to notable increases in publications and productivity. In addition, there has been only limited funding reallocation between institutions.<sup>58</sup> However, some evidence suggests that the PBF system has led to behavioural changes at the individual and institutional levels. At the individual level, researchers have been paying more attention to publications, especially in terms of quantity produced, international publications, and external funding<sup>59</sup>. At the institutional level, PBF has had an impact on HEI's planning and objective setting. Indicators from the PBF system are also being used by some institutions to allocate funds internally to the different departments, while others use it as a management tool, or as criteria for recruitment and promotion.

#### **4.3.2.4 Impacts on internationalisation**

Despite the fact that systems have generally increased the attention given to internationalisation in formulas and contracts (see section 5 for more details on internationalisation), our country informants have found very little evidence linking performance-based systems to improvement in internationalisation.

One exception is Italy, where the funding system is linked to both increases in the number of double degrees and other international partnerships – including participation in Erasmus and Erasmus+ partnerships. Another exception is Finland, where both international research collaboration and mobility and international enrolment have increased. However, the new 2021 Finnish funding formula no longer includes the two internationalisation indicators: mobility and degrees by foreigners. The narrow vision of internationalisation portrayed by these two indicators was disputed, leading to their removal. Instead, internationalisation is part of the Finnish performance agreements – its strategic 'third pillar' – and the government dedicates €40 million to this policy goal. It is meant to fund HEIs participating in transnational collaborative networks.

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<sup>58</sup> Source: <https://ufm.dk/publikationer/2019/filer/fremtidssikring-af-forskningskvalitet.pdf>

<sup>59</sup> Ministry of Research (Forskningsministeriet) (2019) 'Future-proofing research quality. The Expert Committee on Results-Based Distribution of Basic Funds for Research' (Fremtidssikring af forskningskvalitet Ekspertudvalget for resultatbaseret fordeling af basismidler til forskning), available at: <https://ufm.dk/publikationer/2019/fremtidssikring-af-forskningskvalitet>

Table 5. The positive impacts of PBF as reported for the eight case study countries

	AUSTRIA	BULGARIA	DENMARK	FINLAND	GERMANY - BERLIN	ITALY	NETHERLANDS	POLAND
Education overall	<ul style="list-style-type: none"> <li>• More institutional attention given to student choice (study entry &amp; orientation)</li> </ul>	<ul style="list-style-type: none"> <li>• Quality of education improved as evidenced by increased ratings</li> </ul>	<ul style="list-style-type: none"> <li>• Improved degree completion</li> <li>• Reduced time to degree</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced time to degree</li> <li>• Increased completion</li> <li>• Study progress (ECTS)</li> <li>• Quality of education</li> </ul>	<ul style="list-style-type: none"> <li>• Degree completion improved somewhat</li> <li>• Universities taking on more students (also in teacher training) and are more fully utilizing their study places</li> </ul>	<ul style="list-style-type: none"> <li>• More attention for education quality (but no hard evidence)</li> </ul>	<ul style="list-style-type: none"> <li>• Higher completion and slightly reduced drop-out in research universities</li> <li>• Placing quality of education (T&amp;L) on HEIs' agenda</li> </ul>	<ul style="list-style-type: none"> <li>• Quality of education</li> </ul>
Research overall			<ul style="list-style-type: none"> <li>• HEIs and staff focus more on publications and grant acquisition</li> <li>• Increases in external funding of HEIs</li> <li>• PhD volume</li> </ul>	<ul style="list-style-type: none"> <li>• Higher publication output</li> <li>• Improved research quality</li> </ul>	<ul style="list-style-type: none"> <li>• Some improvement in research quality</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement in the average quality of research output</li> </ul>	<ul style="list-style-type: none"> <li>• PhD output increased initially</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement in research quality</li> <li>• Increase in research staff</li> <li>• Establishment of doctoral schools</li> </ul>
Internationalisation				<ul style="list-style-type: none"> <li>• Mobility and international enrolment increased</li> <li>• International research collaboration improved</li> </ul>		<ul style="list-style-type: none"> <li>• Reduced gap in research performance compared to international competitors</li> <li>• Increase in double degree programmes and other partnerships</li> <li>• Better recognition of credits obtained abroad</li> </ul>		

	AUSTRIA	BULGARIA	DENMARK	FINLAND	GERMANY - BERLIN	ITALY	NETHERLANDS	POLAND
Other/ general	<ul style="list-style-type: none"> <li>• More transparency in funding</li> <li>• Sector-wide discussions on new topics (e.g internationalisation)</li> </ul>	<ul style="list-style-type: none"> <li>• Some HEIs prioritised admissions according to labour market needs</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthens focus of HEIs and their strategical steering towards government priorities</li> </ul>	<ul style="list-style-type: none"> <li>• Overall long-term positive impact on education and research</li> <li>• Stable and predictable funding for HEIs - transparency</li> <li>• Enhanced financial management and steering of HEIs</li> <li>• Indirect positive effects of performance agreements on innovation in teaching and learning</li> </ul>	<ul style="list-style-type: none"> <li>• Model allows HEIs to plan for 5 years</li> <li>• Topics covered by indicators are attracting more attention from internal university management</li> <li>• Less competition between HEIs</li> </ul>	<ul style="list-style-type: none"> <li>• Greater objectivity and clarity in funding decisions</li> <li>• Better data</li> <li>• More strategic decision-making from HEIs</li> </ul>	<ul style="list-style-type: none"> <li>• HEIs are more transparent about their efforts and success</li> <li>• More attention for distinctive institutional profile</li> <li>• Improved dialogue between stakeholders (also within HEIs)</li> </ul>	<ul style="list-style-type: none"> <li>• Increased autonomy of HEIs</li> <li>• Funding stability</li> <li>• Optimization of HR and development policies</li> </ul>

### 4.3.2.5 Other education impacts

More generally, in the eight case studies, performance-based funding systems have proved beneficial in three ways. First, performance-based funding systems have increased the transparency of core funding distribution. The clarity, objectivity and predictability of these systems has been welcomed by higher education institutions in Austria, Finland (mainly by HE leaders) and Italy. In Finland and Poland, performance-based funding systems have been also linked to greater funding stability.

Second, performance-based funding systems have led to improvements in the management of higher education institutions. In Italy, for instance, the focus on performance has led to more strategic decision-making by HEIs. In Poland, the performance-based system is linked to the optimisation of institutional human resources and development policies. In the Netherlands, higher education institutions are now more transparent about their efforts and performance. These efforts to change the management of higher education institutions in response to performance-based funding systems show how these funding systems can shape and steer the higher education sector. Indeed, in Finland and Denmark, the ability to steer institutions towards national priorities and objectives is an explicit positive effect of the performance-based funding system.

Third, in Austria and the Netherlands, the discussion process necessary to the drafting of performance agreements has led to an improved dialogue between stakeholders of the higher education sector. Better communication is not confined to discussions between individual institutions and the government, but also between higher education institutions. In Austria, the performance-based funding system led to sector-wide discussions on new topics, such as on the internationalisation factor, in search for broad consensus amongst stakeholders.

### 4.3.3 Negative effects of PBF

Our country informants for the eight higher education systems also reported on the unintended, or negative effects of PBF, as summarised in Table 6.

#### 4.3.3.1 Impacts on education

As far as education is concerned, the negative effects of PBF systems are systematically linked to the choice of indicators. This is sometimes due to a perceived imbalance that affects the way HEIs behave. In Poland, for instance, the focus on research in the PBF system has negatively affected the attention that HEIs give to education and the regional mission. In the Netherlands, quantitative targets were sometimes given an emphasis at the expense of more qualitative objectives.

In other systems, the negative effects are linked to the inadequacy of indicators. In particular, while graduate employment indicators are becoming more popular in performance-funding formulas (see section 3.3), in both Bulgaria and Denmark, PBF indicators are criticised because they penalise HEIs based on something they do not control. As such they are an important source of revenue uncertainty for HEIs. In Denmark, the “time to degree” indicator has negatively penalised special needs students, who require more time to finish their degree for example. This has worked against inclusion efforts.

#### 4.3.3.2 Impacts on research performance

Similarly, the negative effects of performance-based funding systems on research are often linked to the use of bibliometric and research funding indicators in a context of competition with other institutions. The focus on international publications for instance, leads to fewer publications in national languages, as reported in Finland. Research indicators also tend to advantage some research fields over others. In Italy, this has led institutions to focus on these advantageous research fields at the expense of diversity.

In Poland and Italy, the PBF systems employ an evaluation system for research. In Poland, although the evaluation has not been fully realised yet, the lack of transparency so far raises concerns as to the reliability of the evaluation. In Italy, the evaluation period lasts 5-years, which is seen as too long, preventing a proper evaluation of the quality of recruitment.

### Box 9 – Changes in Finnish researchers' behaviour

A study by Mathies, Kivistö, and Birnbaum (2020)<sup>60</sup> analysed the relationship between the performance-based funding system and publication patterns of researchers in Finland. They observe a tendency to publish more in international, English-speaking outlets. This finding emerged for peer-review articles and books, and it was most noticeable in the social sciences and to a lesser extent in the humanities. This is seen as problematic, as non-Finnish publications are less likely to inform national policy. Publications in English might also fail to capture Finnish ideas, culture, and linguistic traditions.

Other findings linked to social sciences include a shift from books to peer-reviewed articles and publishing in lower quality media that have less academic prestige, i.e. not in the lowest quality outlets but not either in leading or top channels.

#### 4.3.3.3 Other impacts

However, many unintended consequences of PBF do not pertain specifically to education or research. The PBF system sometimes seems to have a negative effect on the higher education more generally and institutions as a whole. Except for Germany (Berlin) and the Netherlands, all the systems in our study reported that their PBF system increased inequalities between higher education institutions. In Bulgaria and Italy, the system reinforces existing regional inequalities. In Poland, Austria, Denmark and Finland, the system is seen as advantaging large universities to the detriment of smaller, more specialised institutions. In Denmark, differences in the availabilities of external funding between different fields and an emphasis on STEM disciplines resonates in the performance-based system, leading to inequalities depending on the disciplinary focus of higher education institutions.

In five systems – Finland, Denmark, Poland, the Netherlands and Germany (Berlin) – the performance-based system is associated with an increased administrative burden due to additional reporting requirements and/or increased reporting complexity. This increased burden is felt at the institutional level, but also, as in Finland, at the individual staff level.

The performance-based systems in Finland, the Netherlands and Germany (Berlin)<sup>61</sup> are also associated with lower institutional autonomy and/or felt to lead to a homogenization of university profiles at the expense of diversity. Finally, in the Netherlands and Finland, the zero-sum game character of PBF has sometimes been perceived as unfair. When PBF is distributing a fixed budget according to performance outcomes, this will not only increase competition between institutions (and researchers) but it also implies that the budget gain for one institution must necessarily lead to an equally great loss for one or more other institutions. This may result in an outcome where institutions can only see their budget increase if they improve their performance relative to others (rather than in an absolute sense).

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<sup>60</sup> Mathies, C., Kivistö, J., & Birnbaum, M. (2020). Following the money? Performance based funding and the changing publication patterns of Finnish academics. *Higher Education*, 79(1), 21-37.

<sup>61</sup> In Germany (Berlin), a substantial part of the university contract is standardised across universities, which could explain its negative effect.

Table 6. The negative impacts of PBF as reported for the eight case study countries

	AUSTRIA	BULGARIA	DENMARK	FINLAND	GERMANY-BERLIN	ITALY	NETHERLANDS	POLAND
Education overall		<ul style="list-style-type: none"> <li>Graduate employment criticised because beyond control of HEIs</li> </ul>	<ul style="list-style-type: none"> <li>Graduate employment indicator perceived as penalty and source of income insecurity</li> <li>Special needs students penalised by “duration of study” indicator</li> </ul>				<ul style="list-style-type: none"> <li>More focus on quantitative indicators at expense of qualitative issues</li> </ul>	<ul style="list-style-type: none"> <li>Focus on research at expense of education and regional mission</li> </ul>
Research overall			<ul style="list-style-type: none"> <li>Bibliometrics indicator creates inappropriate incentives</li> <li>Fewer Danish language publications</li> <li>Increased competition</li> </ul>	<ul style="list-style-type: none"> <li>Fewer publications in Finnish</li> </ul>		<ul style="list-style-type: none"> <li>HEIs focus on specific research fields to improve bibliometrics</li> <li>Five-year research evaluation period seen as too long</li> </ul>		<ul style="list-style-type: none"> <li>Unequal treatment of research fields</li> <li>Lack of transparency of the evaluation system</li> </ul>
Other/general	<ul style="list-style-type: none"> <li>Smaller universities fear being neglected or having specific disciplines being underfunded</li> </ul>	<ul style="list-style-type: none"> <li>Regional inequalities</li> </ul>	<ul style="list-style-type: none"> <li>Reporting complexity and, for contracts, outcome uncertainty</li> <li>Unevenness between HEIs because of differences in external funding opportunities and stressing of STEM</li> </ul>	<ul style="list-style-type: none"> <li>Lack of dedicated indicator leads to neglect of engagement</li> <li>Increased admin. workload</li> <li>Homogenisation of HEIs</li> <li>Increased competition between HEIs because of zero sum game</li> <li>Large HEIs at advantage</li> </ul>	<ul style="list-style-type: none"> <li>Institutional autonomy and profiling reduced by top-down steering</li> <li>Exceeding performance targets brings no extra funding</li> <li>Lack of strategic dialogue</li> <li>Complexity of funding model</li> <li>High reporting burden</li> </ul>	<ul style="list-style-type: none"> <li>Large regional differences seen as creating unequal funding opportunities</li> <li>Complexity of funding model reduces its impact on shop-floor level</li> </ul>	<ul style="list-style-type: none"> <li>PBF seen as negatively affecting HEIs’ autonomy</li> <li>‘Zero sum game’ character of PBF</li> <li>Additional administrative / reporting burden for HEIs</li> </ul>	<ul style="list-style-type: none"> <li>Systems favours large research universities (at expense of smaller/specialised ones)</li> <li>New funding system comes with additional administrative / reporting costs for HEIs</li> </ul>

## 4.4 Conclusions

As already indicated in section 3, there are various types of PBF: different mixes of formula-based and negotiations-based systems, different performance indicators used, and different shares of funding linked to performance. There are also different variants of these types of performance-based funding systems. No two systems are the same, even if they may be inspired by each other.<sup>62</sup> Each system has its own strengths and weaknesses in terms of cost and organization, valuation methods, transparency and legitimacy, extent of allocation of resources, but also in terms of impacts on education and research.<sup>63</sup> Depending on its type, design and implementation, a PBF system can impact different strands of university work – including for instance enrolment, teaching quality and completion, as well as research production and research quality.<sup>64</sup>

Informants from ministries, HEIs and the higher education research field consulted for this study – also in the expert meeting that was part of our data collection and validation work (see section 2) – reported that it was difficult to determine the effectiveness of PBF and to attribute changes in specific performance dimensions to (changes in) the (performance-based) funding system. As we argued in section 4.2, the difficulty stems from potential other factors impacting on performance - such as the shares of PBF funding versus that of competitive (project-based) funding, other incentives originating from the HEIs' environment, and/or other changes in higher education policies.

Although a clear assessment of the impact of PBF is difficult to make, with respect to the performance criteria included in the funding formula and/or contract, we have found indications of the following impacts of PBF– based on the eight country case studies and supported by additional evidence:

- Increased study completion rates
- Reductions in time-to-degree; increased study progress
- Improved teaching and learning quality
- Greater focus on student guidance and mentoring
- Improved research quality
- Increase in PhD outputs
- Improvement in internationalisation.

Apart from the perceived impacts on these specific areas of performance, more general impacts of PBF on the higher education system were mentioned. Interestingly, the large majority of the higher education experts participating in the expert meeting organised as part of our study agreed with these more general impacts exposed by our study, while there were debates about impact on particular performance areas. Therefore, we conclude that performance-based systems:

- incentivise the performance-orientation in HEIs and help reach the results at which it aims;
- provide legitimacy for the public funds allocated to the higher education sector, because of their focus on transparency, accountability and performance;
- offer a transparent way to distribute core funding to HEIs;
- support the strategic dialogue between HEIs and their funding authorities/ Ministries, taking into account the country's strategic objectives.

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<sup>62</sup> Sivertsen, G., & Aagaard, K. (2017), The effects of performance-based research funding systems, *R-QUEST Policy Brief*, 2, 1-4.

<sup>63</sup> Aagaard, K., Bloch, C. W., & Schneider, J. W. (2015), Impacts of performance-based research funding systems: The case of the Norwegian Publication Indicator. *Research Evaluation*, 24(2), 106–117.

However, PBF systems, whether based on formulas or performance agreements, also risk producing unintended consequences for the system, including, among others:

- The tendency of bibliometric indicators to modify researchers' publication patterns in certain fields in the sense of favouring, for instance, publications in English over national language outputs and the focus on publishing in less prestigious academic journals (this may lead to unintended consequences in professorial appointment processes which are indirectly linked to PBF).
- In the increased competition resulting from PBF, some HEIs tend to experience a disadvantage compared to other HEIs due to their size, their regional location, and/or their disciplinary profile/specialisation, which may be due to a poor fit between the performance-funding indicators included in the PBF system and the missions of the HEIs. Performance agreements may alleviate this difficulty by tailoring criteria to the HEI.
- HEIs may perceive the performance criteria included in the funding formula or the performance agreement as negatively affecting their institutional autonomy.
- A higher administrative burden for institutions and staff is experienced, due to increased reporting requirements and the complexity of the funding system's arrangements.

The general conclusion that emerges from the eight European case studies, the experiences of the other European and non-European systems and the insights from our validation webinar is that the overall impacts of PBF systems very much depend on their design features as well as the national contexts and traditions in which they function. The large differences between countries/ states in that respect – also in terms of their systems of higher education governance, accreditation, student finance and research grants – prevent us from making generalisations on PBF.

## 5 The funding of the European Universities

### 5.1 Introduction

In addition to mapping and evaluating performance-based funding (PBF) systems in Europe, our study aims to better understand how Member States financially support European Universities Alliances (hereafter “Alliances”). In this section we will address the third research question: *How do national funding mechanisms support (or can they support) transnational university Alliances, such as the European University Alliances initiated under the European Universities Initiative (EUI)?*

The findings in this section are based on information collected in an EU-wide survey of education ministry representatives, detailed case studies of the PBF systems in eight higher education systems, and two case studies of Alliances: the European University for Smart Urban Coastal Sustainability (EU-CONEXUS) and the European Consortium of Innovative Universities (ECIU University). In addition, the conclusions and recommendations have been validated through contacts with the FOR-EU platform and an expert webinar (see section 2 for more on methodology). The findings have been discussed with the FOR-EU platform and in our expert webinar (see section 2 for more on methodology).

This section:

- Introduces the European Universities Initiative (5.2)
- Describes the funding of Alliances by Member States, distinguishing between more targeted national subsidies and core funding mechanisms that benefit Alliances (5.3)
- Addresses the Alliances’ financial sustainability (5.4)
- Summarises the conclusions of the section and connects them to the EU’s Strategy for Universities published in January 2022 (5.5).

### 5.2 Towards European Universities

To establish a European Education Area, the EU wishes to strengthen strategic partnerships between higher education institutions across Europe. The objective is to establish European Universities in the form of highly ambitious transnational alliances of higher education institutions that develop long-term institutional structural and strategic cooperation, based on common values and agreed principles, and aim to achieve sustainability of their cooperation. The European Universities initiative responds to a long-term vision that has the potential to transform the institutional cooperation between higher education institutions and bring it to the next level<sup>65</sup>.

European Universities are expected to contribute to the global competitiveness of the European higher education sector, offering education that is linked to research and innovation. This will drive systemic, structural and sustainable impact at all levels of partner institutions and create a European inter-university ‘campus’, where students, staff and researchers enjoy seamless mobility (physical, virtual, or blended) to study and do research, working in transdisciplinary and transnational teams and addressing issues such as digitisation, sustainability, democracy and health. Students will eventually be able to obtain a degree through combining courses in several European countries.

To achieve this aim, the European Commission published three calls for proposals to select European Universities Alliances. The calls were published in 2019, 2020 and 2022 under the Erasmus+ programme. In 2019, 17 Alliances involving 114 HEIs from 24 Member States

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<sup>65</sup> [call-fiche\\_erasmus-edu-2022-eur-univ\\_en.pdf](https://european-council.europa.eu/media/e0000000-0000-0000-0000-000000000000/asset/document/2022/01/2022-01-14-erasmus-edu-2022-eur-univ_en.pdf) (europa.eu)

were selected. In 2020, 24 Alliances were selected, involving 165 HEIs from 26 Member States and countries associated to Erasmus+. In 2022, the Erasmus+ call had 2 topics and aimed, on the one hand, to offer sustainable funding for existing alliances, including but not limited to the alliances selected under the Erasmus+ 2019 call, and, on the other hand, to open opportunities for the selection of several new alliances. A total of 20 alliances were selected for funding, involving 175 HEIs from 24 EU Member States and 3 associated countries. All in all, this led to the establishment of 44 Alliances involving 340 HEIs.

For the purposes of this study, only the first generation of 41 alliances have been considered. A budget of up to €287 million was first available for these 41 Alliances selected under the 2019 and 2020 Erasmus+ calls. Each Alliance received up to €5 million from the Erasmus+ programme and up to €2 million from the Horizon 2020 programme for their research and innovation dimension. This budget covered a three-year period and was to be spent on the implementation of the Alliances' long-term vision.

The recent European strategy for universities<sup>66</sup> will lead to an expansion of the number of Alliances to 60 European Universities, including more than 500 HEIs by mid-2024, with a budget totalling €1.1 billion for the 2021-2027 Erasmus+ programming period. The strategy announces the EC, in cooperation with the higher education sector and the Member States, will explore and pilot options for institutionalised cooperation instruments that could lead to a possible legal status for alliances of higher education institutions. The EC will also test common criteria for European label joint programmes, to be followed possibly by voluntary joint degrees based on these criteria and widen the implementation of the European Student Card initiative. All of this is expected to contribute to a deeper transnational cooperation and should pave the way for seamless education and research across Europe.

The new European strategy for universities commits to further develop and strengthen European Universities, and recognises the importance of national funding in supporting this initiative. The strategy calls on Member States to “*maximise the impact of EU interventions, by seeking further synergies with national financing, notably in the context of European Universities.*”<sup>67</sup> In the next subsection, we present the types and amount of funding provided by Member States to European University Alliances.

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<sup>66</sup> EC (2022). *Communication on a European strategy for universities*. COM(2022) 16 final, Strasbourg 18.1.2022.

<sup>67</sup> See: EC (2022), *Communication on a European Strategy for Universities*, p. 7.

Table 7. Targeted national funding for European Universities Alliances per country (the situation at end-of-2021)

AT	Austrian HEIs coordinating a European University received €375,000. Austrian HEIs that are partners of a European University received €225,000.
BE-NI	Flemish universities participating in alliances receive a fixed uniform subsidy for the period November 2021 until May 2024. The combined amounts (for all 5 universities) are equal to €4.800.000.
BE-Fr	HEIs belonging to European Universities share €500,000 annually (€100,000 - €125,000 per institution). Available for third year in row, but thereafter funding horizon unclear.
BG	Three Alliance HEIs shared €480,000 (largely in the shape of a lump sum).
CY	Alliance HEIs received €100,000.
CZ	Financial support for the Alliance HEIs covered up to 75% of their share of co-funding within the Alliance's total budget. Not on basis of specific project proposal but provided on basis of original Erasmus+ project plans and a justification for the co-funding request. Funding likely to be continued, possibly through a different instrument.
DE	German HEIs in EU-funded consortia can apply for additional financial support with the German Academic Exchange Service (DAAD). The grant is limited to a maximum of €750,000 per institution (max. €250,000 per budget year). €450,000 is available for German universities that had an Alliance proposal that was not selected for EU funding but that was evaluated as 'good'.
DK	No targeted national funding.
EE	No targeted national funding.
EL	Alliance members received national funding based on the 20% co-funding of Alliances. Funds became available as a means of co-funding the Erasmus+ budget over the period of implementation of the Alliance's pilot phase. No indication as to whether similar national funding will become available in the full roll-out phase.
ES	All Alliance HEIs received a lump sum of about €280,000 if they are coordinating a European University and about € 224,000 in other cases.
FI	In 2019, Alliance HEIs received a one-off contribution of €150,000.
FR	The Erasmus+ funds received by French Alliance members were matched in full as part of a funding scheme called "Investments for the Future programme" ( <i>Programme d'investissements d'avenir</i> ). An overall budget of €100 million for 10 years is dedicated to European Universities. Funding is non-competitive and the use of the funding is flexible by HEI.
HR	Alliance HEIs received funding of €33,000 annually (about €100,000 for the pilot phase).

HU	8 public universities and 2 trust foundation universities received a total of about €12 million and €1 million deductible expenses (3-year period) to cover their 20% co-funding. HEIs received a lump sum but are expected to report to government on the project costs.
IE	No targeted national funding till 2022, but the Irish Higher Education Authority confirmed that resources have been set aside to support Irish Alliance members for 2022 to the amount of €500,000 per HEI annually. Plans to be elaborated further to finalise the proposal.
IT	Targeted funds in the form of a subsidy based on an application submitted by Italian Alliance members was awarded to cover staff costs, travel costs and individual support.
LT	In 2019, Lithuanian Alliance HEIs received €500,000 in total (all three LT Alliance universities together – first funding phase). Future targeted funds likely to raise to m€10 according to the government's future plans ( <i>end March 2022: the government intends to allocate up to m€13,5 for the LT Alliance universities (the Economic Recovery and Resilience Facility)</i> ).
LU	No targeted national funding till 2022. However, financial support is considered in the framework for the next four-year plan (2022-2025).
LV	Targeted funds for Latvian Alliance HEIs in the form of a national subsidy based on the mandatory 20% co-funding.
MT	No targeted national funding.
NL	No targeted national funding till 2022. [The Dutch government announced in October 2022 its decision to support Dutch participants in European Universities alliances with €250,000 per year (for a period of 4 years), as well as to support new applications with a lump sum of €50,000 (one-off).] <sup>68</sup>
PL	Alliance HEIs received targeted funding based on their own mandatory 20% co-funding.
PT	Each Portuguese Alliance HEI received PhD scholarships from the Portuguese Science Foundation, worth an average of €14.750 annually per scholarship for four years.
RO	Alliance HEIs received a one-off subsidy in the form of a fixed lump sum – about €200,000 in 2019 and €100,000 in 2020 - and a differentiated additional sum depending on the HEI.
SE	HEIs invited to apply to a call from the Swedish Council for Higher Education (UHR) for a (very modest) grant allocated as a lump sum.
SI	No targeted national funding.
SK	Alliance HEIs received funding to cover their mandatory 20% co-funding.

<sup>68</sup> Since this announcement exceeded the contractual period of this study contract, this policy development could not be reflected in the analytical phase of this study.

## 5.3 European Universities alliances and national funding

The revenues of the Alliances are generated from various sources. First and foremost, there are EU subsidies, i.e. the Erasmus+ and Horizon 2020 programs for the research and innovation dimension of the alliances. The Erasmus+ funds are limited to a maximum of 80% of the approved Alliance budget, with the remaining 20% to be covered by the institutions participating in the Alliance. The second source is national contributions that governments provide to their national universities/HEIs participating in Alliances. Third-party external contributions to Alliances (e.g., from private sources) are also possible, although in practice they are rare.

In this study, we focus on the second revenue source: national contributions by Member States. They can take two main forms:

1. Targeted funds. These are dedicated funds that are awarded to the country's Alliance institutions as a one-off contribution or for a particular period.
2. Funds integrated in the HEI's core funding, where the core funding system in place directly or indirectly benefits specifically national HEIs that are part of Alliances.

### 5.3.1 Targeted national funding for the alliances

Focusing on the first type of revenue source, Table 7 maps the targeted national funding for 28 higher education systems, including two regions of Belgium. The table presents the amounts awarded and the forms in which the national targeted funding is provided. Please note that the table does not include the (second type of) national funding provided through core funding contributions (see the next subsection 5.3.2). More detailed descriptions of the Alliances' national funding for some Member States are available in the two Alliance case studies (EU-CONEXUS and ECIU University) in Annex 3.

Table 7 shows that targeted funding from national governments takes many forms. This variety is the result of the bottom-up approach that the EU has adopted towards the European Universities Initiative and is fully in line with the principle of subsidiarity. Table 8, below summarises the information from table 7.

**Seven national governments do not provide targeted funding** to the Alliance members from their country/state.<sup>69</sup> They are: Denmark, Estonia, Ireland, Luxembourg, Malta, the Netherlands, and Slovenia.

The other **21 governments all provide some form of funding targeted directly at the Alliance institutions from their country/region**. Most systems do so in the form of providing co-funding or fixed amounts per Alliance member. Both types are a non-competitive way of funding Alliance institutions.

- In six higher education systems – Czech Republic, Greece, Hungary, Latvia, Poland and Slovakia– the **national contribution compensates (part of) the 20% mandatory co-funding** requested from HEIs in an Alliance.
- In eleven systems – Austria, Belgium-Flanders, French speaking community of Belgium, Bulgaria, Cyprus, Spain, Finland, Croatia, Lithuania, Romania and Sweden – a **fixed amount** is made available for the Alliance partners. For example, in Austria and Spain, Alliance universities with a coordinating role received respectively €375,000 and €280,000 and other Alliance HEIs respectively €225,000 and €224,000. In some systems, this is a **one-off contribution** (e.g., Finland for the first wave

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<sup>69</sup> At the close of the data collection for this study (December 2021), targeted funding was foreseen for IE, LU and NL.

Alliances), while in others it is a **fixed annual amount** (e.g. both regions in Belgium and in Croatia).

- In France and Hungary, the **national contribution matches (part of) the European funding allocated to the national Alliance partners**. In France, the full Erasmus+ amount is matched, while in Hungary a percentage of the contribution made to the Alliance is awarded. We classified this contribution as ‘other’ in table 8.
- In Portugal, each Alliance university received a number of **PhD scholarships** from the Portuguese Science Foundation, worth an average of €14.750 per scholarship annually for four years. We also classified this as ‘other’ in table 8.
- The Swedish Alliance institutions qualified for a (very modest) grant in response to a call from the Swedish Council for Higher Education (UHR). The **grant was allocated as a lump sum**.
- In Germany and Italy, the **additional funding is project-based**, implying that there is some degree of **selectivity** (and competition), as Alliance members have to make a request for funding. In Germany, an Alliance HEI can apply for additional funding (‘topping up’) at the German Academic Exchange Service (DAAD).
- Germany and France also offered funding to universities whose EUI proposal was evaluated as good but did not receive EU funding. In Germany this is up to €450,000. The purpose is to enable institutions to further develop and improve their proposal and prepare for a new open call for proposals.

The targeted national funding amounts differ considerably between countries.

- The French government matches *in full* the amount of Erasmus+ funds.
- In Germany, the DAAD provides a ‘top-up amount’ of up to €750,000 per German Alliance partner.
- In other countries, the targeted national funding was more modest (in absolute terms).

While the French and German contributions constitute relatively generous amounts compared to other countries, the absolute amounts of the targeted national funds should be put into perspective. Countries differ considerably both in terms of their national investments in higher education, as well as the average size and budget of the individual HEIs in the country.<sup>70</sup>

Box 9 gives an impression of the differences in targeted national funding, based on our case study of EU-CONEXUS. The case study shows that Alliances are, in this pilot phase, very much reliant on European funding. They receive funds from the Erasmus+ EU budget but were also successful in generating other European funds. Both the EU-CONEXUS case and the ECIU Alliances cases show wide differences in targeted national funding for institutions within the same Alliance. (See also section 5.4 below and the further information included in Annex 3, which includes our two Alliance case studies).

### Box 9 – EU-CONEXUS: European and Targeted National Funding

The “European University of Smart Urban Coastal Sustainability” (EU-CONEXUS) is made up of six universities from six different EU Member States.

At the European level, the Alliance received €4,5 million in Erasmus+ funding for their initiative. In addition, EU-CONEXUS has been very active in generating European funding, both for research projects and educational initiatives. It received almost €2

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<sup>70</sup> A national subsidy of €200,000 for an Alliance university with a budget of €50 million would amount to only 0.004% of the university’s budget. Half of the institutions in the ETER dataset had revenues of less than €50 million in 2015. See: [https://www.joanneum.at/fileadmin/user\\_upload/ETER\\_AnalyticalReport\\_02\\_final.pdf](https://www.joanneum.at/fileadmin/user_upload/ETER_AnalyticalReport_02_final.pdf)

million in Horizon 2020 funding, €440,000 in Erasmus+ strategic partnership funds, and €5,2 million in Erasmus Mundus funds for a joint Master programme in Marine Biotechnology.

At the end of 2021, the total European funding that EU-CONEXUS was awarded equalled more than €12 million.

All EU-CONEXUS members in addition received funding from their national government:

- France contributed €1,520,000 via the coordinating institution, La Rochelle University.
- Greece also provided targeted national funding, to cover the 20 percent co-funding of the Agricultural University of Athens, i.e. €187,000 for two years.
- Croatia added €33,000 per year for the University of Zadar.
- Klaipeda University received €110,000 from the Lithuanian government in 2019, and awaits a further €2 million.
- Romania contributed €400,000 per year to the Technical University of Civil Engineering Bucharest.
- Spain contributed €223,000 to EU-CONEXUS through the Catholic University of Valencia.

Two years into the Alliance project, EU-CONEXUS therefore received nearly €3 million in national contributions – equivalent to about two thirds of the Erasmus+ funding for European Universities.

### 5.3.2 National core funding benefitting Alliances

Table 8 summarises the national core funding modes for the Alliances. The left-hand side of the table summarises the targeted national support for Alliance universities presented earlier in Table 7. The right-hand side of the table shows whether countries' core funding mechanisms support the Alliances through the internationalisation indicators included in a funding formula or through the funding agreements negotiated between the national government and individual HEIs.

As evidenced by table 8, seven national/regional governments do not provide targeted funding to the Alliances<sup>71</sup>. However, quite a few governments financially support the European Universities through core funding systems that include internationalisation indicators or refer to transnational Alliances in the funding criteria. If this is the case, the institutions participating in an Alliance will be receiving financial support for their internationalisation efforts undertaken as part of the European University Alliance. For instance, student and staff mobility resulting from their participation in the Alliance and the international research funds this brings in will be financially supported through the funding formula or the performance agreement with their national government.

Table 8 also shows that there is a great diversity in the ways national governments contribute financially – directly or indirectly – to their country's Alliance institutions. In 12 countries there is a combination of funding through targeted support and core funding (Austria, Croatia, Czech Republic, Finland, Germany, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Spain).

Focusing on core funding mechanisms that include internationalisation criteria, the right-hand side of table 8 shows that 17 systems, have a reference to internationalisation in their core national funding system, that is, in the core funding formula or in the performance agreements.

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<sup>71</sup> At the close of the data collection for this study (December 2021), targeted funding was foreseen for IE, LU and NL.

- **Formula-driven systems** that include internationalisation criteria exist in 12 higher education systems (see table 8). Frequently used internationalisation indicators in formulas are enrolments of international students, international graduates or measures of student mobility. Indicators related to foreign staff are found in three countries (Czech Republic, Germany, Poland), while the generation of international research funding is financially rewarded in the funding formulas of six systems (Denmark, Finland, Spain, Lithuania, Latvia and Poland). The Italian funding formula includes student mobility among low-income students, international degrees, degrees in a foreign language and participation in transnational Alliances. Denmark and Finland include externally funded research as an indicator in their funding formula, where such research funds also refer to internationally funded research obtained as part of an Alliance project.
- In eight national higher education funding systems, **performance agreements** include references to the institutions' internationalisation ambitions (Austria, Croatia, Denmark, Finland, Germany, Ireland, Luxembourg and Slovenia). In Estonia, internationalisation is officially supposed to be part of the agreement, but this has yet to be implemented. In the performance agreements of these higher education systems, the HEIs, among other things, are specifying goals related to internationalisation. In this case, HEIs are often free to choose the indicators and areas to include in their funding contract, which means that members of a transnational Alliance may choose to include the ambitions and targets related to their participation in the European University Alliance. In Finland, part of the funding is allocated on the basis of institutional strategies, which are formulated together between ministry and each institution (this core funding component is called "other education and science policy considerations" and for universities makes up 15% of the overall core funds). The Finnish institutions then decide themselves on the internal allocation of funding on the basis of their strategic choices. They may use it for the Alliance, but are not obliged to do so. In the case of Austria, the performance agreements connected to the institutions' core funding include ambitions referring to an institution's membership of a European university Alliance.

Compared to HEIs that are less active in internationalisation, Alliance institutions are more likely to benefit financially from the presence of internationalisation criteria in the funding formula. They may have relatively more international students, and more international funding from Erasmus+ and Horizon programs.

In the case of national funding systems that prescribe the internationalisation targets to be included in the performance agreements, the targets normally refer to the students' and academics' international mobility and the institution's ambitions in terms of generating research funds from international (including EC) sources. The inclusion of internationalisation criteria in the agreements is likely to financially benefit HEIs that have internationalisation ambitions, that is: those HEIs that participate in a European university Alliance.

There are different degrees of freedom for HEIs in using the national contributions to their Alliance. In case the support for the Alliance is integrated in the indicators driving their core funding, the financial autonomy of the HEIs is relatively high, because the core funding is normally granted in the form of a lump sum. This implies that HEIs can decide for themselves what the national contribution will be spent on.

If the national contributions are linked to a performance agreement, there is the expectation that the HEI will be using part of its lump sum to achieve its internationalisation targets included in the agreement. In this case, the HEI is still relatively autonomous in using the national support. In case performance agreements include internationalisation ambitions, HEIs are usually free to choose the exact targets and indicators included in their funding contract. HEIs participating in a European University Alliance then may choose to include the ambitions and targets related to their participation in the Alliance.

In cases where countries do not provide any financial support, the Alliance members will have to fund their Alliance activities from their own resources (see next subsection). As mentioned, some higher education systems do not have targeted funding for Alliance universities, but do financially support their Alliance universities indirectly, through regular core funding mechanisms. Examples are Denmark or Finland, where externally funded research, including the Alliances' research grants, act as a funding parameter in the funding formula. In the case of these countries, there is, however, no direct link between the national funding formula and the objectives of the Alliance universities. The funding agreement (i.e., the performance contract), however, can refer to the HEIs' ambitions with regard to their membership of an Alliance.

In cases where the Alliance support is integrated in the core funds received from the government, the HEIs' funding is normally granted in the form of a lump sum (a *block grant*). This implies that, unlike for targeted funding, an HEI can decide for itself what the lump sum will be spent on. This is, for example, the case for Finland, where Alliance funds are integrated in the so-called Strategic Development Component. These funds may be spent on Alliance activities, but it is up to the HEI to determine exactly how much.

### 5.3.1 Institutional contributions to the Alliances' funding

To supplement the European and national funding for the Alliances, many Alliance institutions invest resources from their own budgets over and above the 20% co-funding that is requested as part of the Erasmus+ programme.

Likewise, in cases where a higher education system does not provide any financial support to Alliances, an Alliance member will have to fund its Alliance activities from other resources, including from its own budget. From the two case studies of European University Alliances (i.e. ECIU University and EU-Conexus; see Annex 3), it became clear that the question of how much of their own resources the institutions participating in the Alliances actually invest in the collaboration is difficult to answer. In the case of the ECIU University, each Alliance partner pays a uniform fee to the ECIU to cover general Alliance expenses (see Annex 3). However, partners in the Alliances generally do not explicitly monitor their financial contributions to the Alliance. While some HEIs do make the contributions from their own budget visible in their institutional accounts, others do not quantify the resources allocated to the Alliance. This is linked to the fact that many HEIs are providing in-kind contributions to the Alliance - by making staff time available or providing infrastructure and other facilities to support Alliance activities. This implies that transparency with regard to the use of the alliances partners' own resources could be improved.

Although the exact amount of institutional contributions is generally unclear, the evidence from our two case studies suggests that such contributions are relatively substantial – certainly when compared to the sum of EU funding and targeted national funding. This observation was confirmed by some of the other Alliances that were consulted as part of our study. Interviews with representatives from the two Alliance case studies indicated a strong willingness of the institutions to make substantial contributions to the Alliance (see Annex 3 for more on this) in order to realise the Alliance's multiple ambitions.

**Table 8: Types and modes of national funding for Alliance institutions per country**  
(situation at end-of-2021)

	Targeted national funding for Alliance partners			Alliance support integrated in partners' core funding	
	<i>Compensating the Alliance partners' 20% mandatory co-funding</i>	<i>Fixed amounts for Alliance partners</i>	<i>Other method (e.g., topping up EU grant)</i>	<i>Inclusion of internationalisation indicators in funding formula</i>	<i>Internationalisation targets in Performance agreement</i>
AT		√			√
BE-NI		√			
BE-Fr		√			
BG		√			
CY		√			
CZ	√			√	
DE			√	√	√
DK				√	√
EE				√	
EL	√				
ES		√		√	
FI		√		√	√
FR			√		
HR		√			√
HU	√		√		
IE					√
IT			√	√	
LT		√		√	
LU					√
LV	√			√	
MT					
NL					
PL	√		√	√	
PT			√		
RO		√		√	
SE		√			
SI					√
SK	√			√	
<b>Total</b>	<b>6</b>	<b>11</b>	<b>6</b>	<b>12</b>	<b>8</b>

Source: ICF/CHEPS

## 5.4 Financial sustainability

Having discussed the current revenue sources of the Alliances, we now turn to their future financial sustainability. We do so on the basis of information collected from two Alliances: EU-CONEXUS and ECIU-University (see Annex 3). The insights from the two case studies were largely confirmed by a number of the other Alliances that were consulted in our study.

The Alliances suggest that in the coming years, their financial sustainability will continue to depend heavily on both EU subsidies and national funding. Although several Alliances are currently investigating potential alternative sources of income, the two case study Alliances clearly stated that without substantial EU and national support their ambitions cannot be fully achieved. This view is echoed in the position paper of the European University Association (EUA) on the future of European Universities<sup>72</sup>, and also in the EC's recent European strategy for universities:<sup>73</sup>

- The EUA calls for sufficient core funding for all institutions and a coordinated approach towards co-funding for the Alliances under the European Universities Initiative and states that providing further funding for the European Universities Initiative is very important.
- The European Commission states in its strategy for universities that “*EU funds and programmes ... must not replace, but operate in addition to sufficient national public funding and other public and private investments*”.

From our case studies of the two Alliances, it became clear that the combined EU support and national contribution generally does not cover the full costs of the Alliance's activities. The costs incurred are considerably larger than the public support received. Obviously, this is a reflection of the high ambitions of the Alliances and it signifies their willingness to invest in the initiative. Yet, the Alliances state that structural financial contributions from the national governments and the EU will continue to be indispensable for their continuation.

A demonstrable added value of an Alliance for a national higher education system would justify an additional national financial contribution, contributing to the long-term sustainability of the Alliances. However, the size of the required contribution would then still depend on the ambitions of the institutions, who are generally autonomous in deciding on their own international collaboration strategy. Given this autonomy and the regular core funds allocated to them, the HEIs themselves decide on the use of their resources, for instance by deciding to participate in a European University Alliance.

On the need for continued national subsidies for the Alliances one can take the view that, when institutions are convinced of the added value of their Alliance, they must also be able to convert that value into a sound and sustainable business case where the combined Alliance's revenues are able to cover the costs – at least in the long-term. According to this reasoning, continued national and European subsidies is important, especially in the Alliance's start-up phase when development costs are high. After this start-up phase, Alliances should seek to further diversify their revenue sources and develop sustainable business models exploiting synergies and complementarities between European, national/regional, and alliance-induced income streams. The latter could be generated through, for instance, fees for online and blended micro-credential tests and certificates as well as through joint research projects. This will help the Alliances over time to become less dependent on European subsidies and targeted national funding. Our two case studies already are showing signs of such a diversification strategy.

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<sup>72</sup> European University Association EUA (2020), *The Future of the European Universities Initiative: the sector's perspective*,

<https://www.eua.eu/downloads/publications/eua%20council%20position%20on%20future%20of%20eui.pdf>

<sup>73</sup> EC Communication on a European strategy for universities, 2022, p. 7.

In light of this discussion and given the still quite short time that the Alliances have been in place, a number of national governments (e.g., Croatia, Cyprus, Hungary, Bulgaria, and Slovenia) are discussing their policies for the future of the European University Alliances. The HEIs engaged in the Alliances expect that the policies and strategies will offer them new opportunities to secure further national financial support.

For the time being, the differences in national contributions for Alliances will continue to be in place, as will be the contributions that HEIs make from their own budget. For the two alliances EU-CONEXUS and ECIU, the differences have to date not stood in the way of their collaboration, although the different partners work with different revenues and cost realities, and they also differ in terms of the efforts invested in the Alliance.

Representatives from the two Alliances, however, mentioned a number of funding-related obstacles that negatively affect their Alliance's financial sustainability:

- Member States differ in terms of the rules and regulations affecting the operation of the Alliances. This sometimes creates inequalities within the Alliance and obstructs collaboration, making it difficult to (fully) realise some of its ambitions.
- Dealing with the fragmented landscape of national and European subsidies for supporting transnational activities results in considerable transaction costs for the Alliances. To manage the various dimensions of an Alliance – in terms of education, research, innovation, and infrastructure – Alliances have to navigate the regulations of multiple funding programmes. While dealing with different funding conditions is a natural fact for all HEIs that try to generate revenues to realise their ambitions, the European Alliances would prefer to see more coordination from the EC on the rules and regulations around funding opportunities for transnational alliances. They call on the relevant authorities to consider ways of enabling possible innovative approaches for a better mobilisation of EU sources of funding, exploiting possible synergies with regional and national funds.<sup>74</sup>
- The legal structure of the Alliance and its current experimental status sometimes prevents the Alliance from engaging in promising ventures. A recognised legal status at the European level for alliances of HEIs would help the Alliances enter into more long-term financial commitments.
- The current temporary nature of the Alliances' subsidies hinders their long-term planning. Currently, the national contributions to the Alliances in many cases come in the form of project-based grants. This stands in the way of the Alliances' future financial viability. Alliances encounter difficulties in, for instance, recruiting permanent staff on the basis of temporary subsidies.
- The institutional co-funding of the Alliance's activities can bring along some risks for the HEI, because it constitutes one of many such co-funding obligations. If the combined co-funding goes beyond a certain threshold, the HEI's budget risks becoming inflexible – exhausting the institution's lump-sum budget. Co-funding requirements might be a reason for some HEIs to not become involved in an Alliance.

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<sup>74</sup> See the Joint statement of all 41 European University Alliances on the need for long-term sustainable funding that allows Alliances to work across all their missions. <https://www.unite-university.eu/whatsnew/call-for-sustainable-and-holistic-support-to-european-university-alliances>

Box 10, based on our case study of the ECIU University, includes some additional remarks on the financial sustainability of European University Alliances.

### Box 10 – ECIU: The Financial Sustainability of European Universities

The European Consortium of Innovative Universities (ECIU) was originally founded in 1997 and became a European University Alliance in 2019, with 12 members. As a pre-existing transnational partnership, the ECIU Alliance has been particularly active to ensure its future sustainability. In June 2021, 1.5 years into the set-up of the Alliance, it published four “Key messages for the further roll-out of the European Universities’ Initiative.”<sup>75</sup> Two of these key messages were linked to funding:

- The ECIU stresses the importance of national funding for European Universities to be successful. In particular, the availability of sustainable national funding to realise the long-term vision is seen as essential.
- The importance for European University Alliances to become legal entities that are directly eligible for funding, next to individual institutional members.

In addition, the ECIU is preparing a long-term business plan, in which it recognises the need for a diversification of funding to support the ECIU in the future, beyond EU and national financial contributions. Several options are considered, including project-based grants, Alliances with private companies, and/or loans from financial institutions.

These considerations show the importance of considering the Alliances’ funding beyond the pilot phase, with long-term sustainability in mind. The balance between the very ambitious goals of the Alliance on the one hand, and, on the other hand, the EU and national financial support in its current format and amount will need to be further discussed, as well as the options to diversify funding sources.

## 5.5 Conclusions

In January 2022, the European Commission published its proposal for a Council Recommendation “Building bridges for effective European higher education cooperation”<sup>76</sup>, adopted by the EU Ministers of higher education on 5 April 2022.<sup>77</sup> The Recommendation is highlighting the commitment to enabling closer and deeper cooperation between European HEIs. The Recommendation closely echoes the Commission’s *European strategy for universities*<sup>78</sup> that includes the ambition to expand the European Universities Initiative to 60 European Alliances gathering 500 HEIs across Europe by mid-2024.

With respect to funding, the Strategy, echoed by the Council Conclusions adopted by the EU ministers of higher education on 5 April 2022,<sup>79</sup> states that, in a context where higher education sectors experience significant underfunding, European funding is important to

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<sup>75</sup> See: <https://www.eciu.org/news/key-messages-for-the-further-roll-out-of-the-european-universities-initiative>

<sup>76</sup> European Commission (2022). Proposal for a Council Recommendation on building bridges for effective European higher education cooperation, 18 January 2022, COM(2022) final. Available from: <https://education.ec.europa.eu/document/proposal-for-a-council-recommendation-on-building-bridges-for-effective-european-higher-education-cooperation>

<sup>77</sup> Council Recommendation on building bridges for effective European higher education cooperation (2022/C 160/01), 5 April 2022

<sup>78</sup> European Commission (2022). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a European Strategy for Universities*, Strasbourg, 18.1.2022 COM(2022) 16 final.

<sup>79</sup> Council conclusions on a European strategy empowering higher education institutions for the future of Europe

complement national funding. It is also recognised as essential to foster European and international academic cooperation. The EU funding and its programmes must not replace, but operate in addition to appropriate public core funding, next to other public and private contributions. To maximise the impact of EU funding, synergies between the EU and national funding are crucial to support the European Universities. The Commission also intends to explore and pilot options for institutionalised cooperation instruments that could lead to a possible legal status for alliances of higher education institutions, allowing them to pool resources and capacities.

These elements from the European strategy for universities are in line with the major findings of our study on the funding of Alliances. Our findings on the funding of European university Alliances are the following:

- Member States allocate funding to the Alliances in two ways: 1) through specific targeted subsidies for national institutions that are part of the Alliances ('targeted national funding'); 2) through the core funding provided to HEIs, where the systems in place benefit Alliance institutions, either through funding formula indicators or performance agreements. Within each of the two options, there are significant differences between Member States with respect to the type, level and conditions related to their financial support for Alliances.
- In 21 European higher education systems, targeted national funding is provided to the Alliances; seven systems do not provide targeted funding, although 5 of them support their national HEIs that are part of an alliance through core funding.
- The types and amounts of targeted national funding vary between EU Member States. In six cases, the national funding provides a compensation for the 20% mandatory co-funding of the Alliance institution; in 11 cases the national funding is awarded as a fixed subsidy to the Alliance member, while 6 countries make use of other mechanisms to provide support.
- Instead of, or in addition to, targeted national support for the Alliances, some countries support the Alliances through the core funding of HEIs – through formula funding and/or performance agreements.
- 17 Member States include a reference to internationalisation in their core funding systems; 12 of them have internationalisation indicators in the funding formula; eight countries have performance agreements that include the HEIs' internationalisation ambitions. Of those countries, three are using a combination of a formula and a performance agreement to support internationalisation efforts. In all these cases, the country's financial support for internationalisation directly or indirectly incentivises the activities undertaken by institutions that are part of an Alliance. The core funding systems of three Member States refer explicitly to Alliances.
- In 12 higher education systems, the support for the Alliances is a combination of funding through targeted support and core funding.
- According to the Alliance members, the full cost of the activities undertaken by the Alliances exceeds the combined support from EU and national subsidies. This reflects the high ambitions of the Alliances and the strategic importance they attach to transnational collaboration. Many Alliance institutions invest in their Alliance by committing resources from their own budgets. The volume of institutional (in-kind and financial) contributions cannot be assessed accurately as institutional contributions are part of the core funds (i.e., the lump sum) allocated by the Ministry/authorities responsible for the funding of HEIs.
- Based on information collected from Alliance members, in particular our two case study alliances, the financial sustainability of the Alliances in the future will continue to depend heavily on EU grants and targeted national contributions.

- In dealing with the fragmented landscape of national and European subsidies and programmes around transnational activities, the Alliances experience high transaction costs.
- The legal status of Alliances and their funding opportunities are interlinked, and this affects their ability to engage in long-term financial commitments. A recognised legal status for alliances of higher education institutions would help the Alliances enter into more long-term financial commitments.

## 6 Performance-based funding and European Universities: Policy pointers and recommendations

This concluding section includes our recommendations on performance-based funding (PBF – section 6.1) as well as its potential use to fund the European Universities Initiative (section 6.2).

### 6.1 Recommendations on Performance-based funding

Our recommendations on performance-based funding (PBF) emerge from the above findings and the views of the experts collected during our validation meeting and are the following. The recommendations are aimed at national policymakers.

- **Before implementing or reforming a PBF system, responsible authorities should set out the broad goals they aim to achieve with PBF.**
  - Clarifying the goals may reveal that there are trade-offs between some of the goals (e.g. access and completion; efficiency and quality).
  - Overloading the system with goals poses the risk of increasing its complexity and administrative burden and costs. It may also lead to micro-management.
  - (Frequent) reforms in the (PBF) funding system tend to increase the system's complexity, creating extra reporting obligations for the HEIs and reducing their autonomy.
  - Austria presents an interesting example of a higher education system that has set out broad goals in its use of PBF (Box 11).

#### Box 11 – Austria's system objectives for the performance agreements

In Austria, three-year performance agreements (*Leistungsvereinbarung*) are concluded between the Federal Ministry for Education, Science and Research and individual universities. As part of these agreements, universities can set their own targets, indicators to measure success, and milestones to be achieved. The targets, however, must be in line with the eight system objectives set by the Government<sup>80</sup>:

1. Further development and strengthening of the higher education system
2. Strengthening basic research
3. Improving the quality of university teaching
4. Improvement of relevant performance indicators in teaching (Impact orientation indicators)
5. Promotion of young scientists
6. Expansion of knowledge and innovation transfer
7. Increasing internationalisation and mobility
8. Social responsibility of universities: Gender equality, diversity and social inclusion, responsible science, sustainability and digital transformation

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<sup>80</sup> See: Country Factsheet for Austria (Annex 1) and Federal Ministry for Education, Science and Research (*Bundesministerium für Bildung, Wissenschaft und Forschung*), Overall Austrian University Development Plan (*Der Gesamtösterreichische Universitätsentwicklungsplan 2019-2024*), URL: [https://www.bmbwf.gv.at/dam/jcr:4187e064-8213-479d-9c81-d3a1234818d3/GUEP\\_2019-2024\\_\\_Kurzversion.pdf](https://www.bmbwf.gv.at/dam/jcr:4187e064-8213-479d-9c81-d3a1234818d3/GUEP_2019-2024__Kurzversion.pdf)

- **Performance-based funding systems need to be based on smart performance measurement systems.**
  - Prior to implementing or reforming a PBF system, governments will need to consider the performance data (and their definitions) required for making the system work.
  - To avoid a high administrative burden for HEIs, attention should be paid to the reporting obligations connected to PBF systems and the associated costs of compliance for the HEIs.
  - To prevent or mitigate the unintended consequences of PBF, evidence needs to be collected and the system evaluated – both at the system and institutional levels.
- **PBF systems require a co-design with the higher education sector to increase their effectiveness.** Governments (i.e. funding authorities) and HEIs together need to decide on funding criteria, performance funding indicators, their weights, and the share of core funds dependent on performance (see Box 12 for an example of a higher education system using co-design).
  - If imposed in a top-down fashion, performance criteria have the potential to reduce institutional autonomy, leaving little room for HEIs to express their own profile.
  - The choice of indicators and performance criteria does not only have the potential to impact the behaviour and strategy of HEIs. It will also determine institutional buy-in in the PBF system. When this choice is made in collaboration with the HEI sector, this will create trust and enhance the dialogue between funder and HEIs.
  - Some performance indicators may place a disadvantage on particular HEIs because of the different regional backgrounds of HEIs, or because of unequal opportunities between research fields and specialisations covered by HEIs.
  - Some indicators may be largely beyond the control of the HEIs, e.g., graduate employment, student admission, time-to-degree for students from particular backgrounds. Placing a too high weight on them in PBF systems will reduce their degree of acceptance by HEIs.
- **Funding authorities should carefully assess the attribution of a relatively high share of core funding based on measures of performance,**
  - ...because a high share can produce unintended and perverse effects, including corruption and favouritism.
  - ...as a high share also affects institutional collaboration, in particular if PBF has a 'zero sum' character (i.e. the PBF rewards gained by one HEI come at the expense of others) and if the higher education system is dominated by one or a few big institutions with minor changes in their performance having a large impact on smaller institutions.
  - ... because large, immediate swings in the performance of HEIs may produce funding instability for others if the model's design features do not mitigate this.
- **HEIs should have some degree of choice and flexibility within the PBF system –** whether through negotiated performance agreements that allow HEIs some room to choose their own goals and performance indicators, or by incorporating a forward-looking strategic element in the funding system. (Box 13 provides an example of a system, where HEIs have a level of choice in the negotiations with the Ministry)
  - This will ensure equity in the system by recognising differences in institutional missions, size, and focus.

- This can also be implemented by means of PBF systems that consist of a mix of streamlined formula funding to incorporate the general national goals and a negotiation/ agreement/ strategic PBF component that allows HEIs to make their own choices and supports institutional profiling. A balance between these two orientations is preferable.
- **Performance-based funding is best established in the context of increasing (i.e. extra) higher education funding**, so that all HEIs have the potential to increase their budgets through higher performance.
  - This would mitigate the potential zero-sum character of PBF systems and potential losses for some HEIs.

### **Box 12 – Finland: co-design of the performance-based funding system**

In Finland, the current performance-based funding system has been developed in consultation with many stakeholders.<sup>81</sup> The consultation not only included higher education institutions, staff and students, but also external stakeholders such as those in the technology and industry sectors. As a result, HEIs feel that they have ownership of the system and are predominantly satisfied with the model and its basic principles. There is no major debate about the legitimacy of the system or the changes to the system. While disagreements do exist, they relate to details of the system, such as the choice of indicators or weights, but overall the Finnish performance-based system has been a welcome development for HEIs' management.

### **Box 13 – The Netherlands: from Performance agreements to Quality agreements**

The goals for four-year performance agreements that were introduced in 2012 were to improve the students' study success, the quality of teaching; and to encourage strategic profiling by the HEIs in terms of educational programmes, research focus and societal engagement. Prior to the design of the funding system, the Ministry of Education and HEIs collectively agreed on goals and the use of seven indicators to quantify targets for areas like degree completion and reducing drop-out. HEIs could choose to incorporate additional (non-mandatory) indicators to express further ambitions. The performance agreements covered the period 2013-2016 and were linked to 7% of the educational core grant, of which 5% was tied to the seven indicators.

An independent *Review Committee* annually monitored the HEIs' progress in realising their goals and engaged in bilateral dialogues with all HEIs. This incentivised HEIs to focus more on student success and strengthened the alignment of institutional and national strategic goals. The Review Committee was keen to hear the 'story behind the numbers' in case progress was insufficient.

Nevertheless, the HEIs felt that quantitative indicators were emphasised too much and the system was too rigid and left too little autonomy to the institutions. The current iteration of the agreements – known as Quality Agreements (for 2019-2024) – are much less tied to indicators; they are focused fully on teaching quality and not anymore on research performance and societal engagement. The monitoring and evaluation are done by the Accreditation Agency, with HEIs reporting on progress in their customary annual reports. Any goals and indicators (if any) are to be decided in an internal dialogue between the HEI and its stakeholders, but accountability is required.

(For more information, see the Dutch country factsheet in Annex 1 and the case study in Annex 2)

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<sup>81</sup> See Country Factsheet for Finland in Annex 1 and case study in Annex 2.

## 6.2 Recommendations on Performance-based funding for the European Universities Initiative

Our recommendations regarding the use of PBF for the European Universities Initiative depart from the following findings in our study:

- Member States provide financial support for their national higher education institutions that are part of a European Universities alliance in different forms and amounts. Support is allocated either through **targeted subsidies** or **embedded in the core funding** provided to HEIs.
- **The full cost of the activities undertaken by the Alliances exceeds the combined support from EU and national sources** during the first three years of their development, the difference being covered by the HEIs own resources (including contributions in-kind). This illustrates the importance HEIs attach to their European University and their expectations to generate added value through this transnational collaboration.

This leads to the following recommendations:

- It may prove useful to better account for and **increase the visibility of the substantial investments made by alliance partners** in their European University.
  - Combined with the information on the national and European financial support for the Alliance, the increased transparency regarding the HEIs own spending within an Alliance's funds can contribute to making a cost-benefit analysis of the Alliance.
  - A cost-benefit analysis made by each partner in the Alliance, accounting also for the overall qualitative added value and benefits of participating in the Alliance's activities can provide further insights feeding into the discussion on the long-term financial sustainability.
  - This could also show to what extent the long-term vision of a HEI participating in an Alliance can be realised through the combination of its national core funding, additional (i.e. dedicated) national subsidies, EU subsidies, the institution's own contributions and the revenues generated from third parties.
  - Such an analysis can also feed into a discussion of the alignment of the Alliance member's ambitions with European and national higher education agendas.
- Alliances should seek to **diversify their revenue sources and develop sustainable business models** exploiting synergies and complementarities between European, national/regional, and alliance-induced income streams.
  - Once the Alliances have had the time to start up their activities, the added value they produce for additional clients and communities should provide opportunities to also generate additional revenues, for instance, through fees for online and blended micro-credential tests and certificates, as well as through joint research projects. Over time they may thus become less dependent on subsidies or targeted national funding.
  - The degree to which Alliances can continue to rely on national co-funding could be made dependent on measures of performance that reflect their added value for national and European higher education.
- **Regulatory obstacles to realise the full potential of the European Universities Initiative should be removed** by means of a combined effort of the European Commission, Member States and the Alliances.

- Obstacles may result from differences in regulations between Member States in the areas of education, research and organisation (e.g. quality control, accountability, tuition fees, freedom to borrow money on the capital market, or around reimbursement of transnational travel expenses). Institutionalised cooperation instruments such as a possible legal status for Alliances of higher education institutions could be beneficial to pool resources and capacity.
- The dialogue on regulatory reform will have to be informed through dedicated monitoring of the Alliances' progress towards their objectives.

### Options for national governments to fund European Universities

In line with the European strategy for universities that calls on Member States to foster synergies between EU and national/regional funding, we propose to consider two options for national governments to fund their HEIs that are participating (or willing to participate) in a European Universities Alliance. The options are not mutually exclusive and take into account the criteria of stability, flexibility, fairness and feasibility.

In the first option, the funding takes place through Member States' national core funding systems. In the second option, there is a greater focus on targeted funding. A combination of the two options is possible as well.

**Option 1:** For Member States that choose to allocate financial support to their HEIs' participation in transnational university alliances, **performance agreements can provide a feasible way to support to the European Universities.**

- Governments can use existing performance agreements to financially support HEIs that have ambitions to establish and sustain transnational alliances. This option ensures:
  - financial stability for the institutions, since performance agreements cover several years;
  - flexibility, through institutional customisation of the agreements signed with the government, and each institution itself deciding whether or not to include transnational collaboration ambitions in its agreement;
  - fairness, since all institutions enter performance agreements, independently of whether or not they participate in transnational alliances.
- Performance agreements coincide with a strategic dialogue between the education ministry and the higher education institutions around the broader national objectives, including internationalisation and transnational collaboration in higher education.
- Performance agreements can strike a sound balance between steering by the Ministry and autonomy for the higher education institutions. However, overloading the agreements with numerous detailed objectives should be avoided, as it may lead to micromanagement by the public authorities and raise the cost of negotiating agreements with individual institutions.
- At the level of the alliances, a challenge will be to align the transnational collaboration with sometimes diverse national political agendas.

**Option 2:** Member States that choose to financially **support to their HEIs' participation in transnational university alliances can do so through targeted national funding**, allocated separately from core funding.

- The targeted funding can be provided as project grants in two main types, that is: (1) as a uniform amount for each participating national institution for a particular number of years, or (2) as a uniform share of the agreed project budget over a limited time period.

- The two types differ in terms of the potential for governmental steering (low for option 1; higher for option 2) and their link to performance (low for option 1; higher for option 2). However, both provide funding stability for the HEIs involved, as they offer a multi-annual perspective, thus giving more certainty for them to pursue their ambitions.
- All HEIs that wish to be involved in transnational initiatives can qualify for the targeted funding. It is up to the government to decide on the degree of competition involved and to guarantee an equal playing field between the HEIs wishing to participate – or not – in transnational alliances.

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