Higher Education

Resourcing Higher Education in the Flemish Community of Belgium

OECD

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Please cite this publication as:
OECD (2021), *Resourcing Higher Education in the Flemish Community of Belgium*, Higher Education, OECD Publishing, Paris, https://doi.org/10.1787/3f0248ad-en.

ISBN 978-92-64-56229-5 (print)
ISBN 978-92-64-92682-0 (pdf)
ISBN 978-92-64-67729-6 (HTML)
ISBN 978-92-64-70436-7 (epub)

Higher Education
ISSN 2616-9169 (print)
ISSN 2616-9177 (online)

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Foreword

Higher education plays a more prominent role in OECD member and partner countries today than it did a half-century ago. It educates many more learners and is increasingly expected to make key contributions to innovation, economic development and lifelong learning. As the scope of higher education activities has increased, and societal expectations have grown, policy makers and institutional leaders have faced significant challenges in deciding how best to mobilise, allocate and deploy resources in higher education in ways that are both effective and efficient. Large exogenous shocks to economies and public budgets – such as the coronavirus (COVID-19) pandemic – make appropriate choices about how to invest in higher education all the more crucial.

The OECD initiated the Resourcing Higher Education Project to support member countries in narrowing the gap between domestic decision-making about resourcing issues in higher education and international evidence on the subject. The project seeks to do this by analysing policy approaches that affect the mobilisation, allocation and deployment of financial and human resources in higher education and sharing lessons learned about the effects of these approaches.

As part of the project, the OECD Higher Education Policy Team is working closely with OECD and partner jurisdictions to examine key aspects of their higher education resourcing policies; to compare these with policies in other, similar jurisdictions and to identify international evidence that can support and guide future policy development. System-specific analyses covering multiple aspects of resourcing policy are developed and published as “resourcing country reviews”, which draw on wide-ranging, in-country stakeholder consultation, as well as local and international evidence sources. More targeted analyses of specific aspects of national higher education resourcing policies are being developed and published in a series of thematic policy briefs.

The Flemish Community of Belgium was one of the first OECD jurisdictions to participate in a review of higher education resourcing. This report presents the findings and recommendations emerging from this review, which was undertaken by the OECD Higher Education Policy Team with the support peer experts. In line with the terms of reference agreed in advance with the Flemish authorities, the review has a strong focus on the funding of operating costs, teaching and research in Flemish higher education institutions. It also covers financial support for students, system-level frameworks governing human resources policy in higher education and key trends in higher education that will affect future higher education resourcing policies. The review team hopes that the analysis in this report captures the many strengths of the Flemish higher education system, but equally supports public authorities, higher education institutions and stakeholders as they refine resourcing policies in the coming years.

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Acknowledgements

The review of resourcing of higher education in the Flemish Community of Belgium was prepared as part of the OECD Resourcing Higher Education Project at the request of the Flemish authorities responsible for higher education and research policy. The review was supported financially by the European Commission.

The OECD is grateful for the support of the Flemish project team within the Flemish Government's Ministry of Education and Training (O&V) and Ministry of Economy, Science and Innovation (EWI). The project team members were Linda De Kock (O&V), Pieter-Jan De Vlieger (O&V), Els Haesaert (EWI), Liesbeth Hens (O&V), Ann Raiglot (O&V) and Els Vermander (EWI). They provided invaluable information to the OECD team, organised the team's round virtual consultations with higher education institutions and stakeholders, provided input to discussions of preliminary findings and thoughtful comments on draft chapters. The OECD would also like to thank the members of the wider project advisory group in the Flemish Community for their feedback on the draft report. The advisory group was composed of representatives of the Ministry of Education and Training; the Ministry of Economy, Science and Innovation; the Flemish Council of University Colleges (VLHORA); the Flemish Interuniversity Council (VLIR); the Flemish Government Commissioners for Higher Education, the Flemish Education Council (VLOR) and members of the cabinets of the Flemish Government ministers responsible for Education and Training and for Economy, Science and Innovation.

Our warm thanks go to the representatives of higher education institutions and stakeholder organisations who dedicated their time to online interviews with the review team between 22 March and 2 April 2021 and who contributed feedback on the preliminary findings presented and discussed on 25 May 2021. Further thanks go to colleagues in the Department of Education and Training, the Department of Economy, Science and Innovation and the Agency for Higher Education, Adult Education, Qualifications and Student Grants (AHOVOKS) who provided additional information, data and factual clarifications to the review team.

The OECD extends particular thanks to Sheena Duffy and Ruaidhrí Neavyn (Higher Education Authority, Ireland) and to Tomi Halonen (Ministry of Education and Culture, Finland) for acting as peer experts in the review, for participating in the institution and stakeholder interviews and for contributing their insights to the development and refinement of key findings and recommendations.

While the report draws on data and analysis from the OECD, Flemish sources, and a range of other published sources, any errors or misinterpretations remain the responsibility of the OECD team.

Simon Roy and Gillian Golden led the institutional and stakeholder interview. Simon Roy prepared the report, with research support from Céline Frik. Bruce Golding provided advice and statistical support for the finalisation of the report. Thomas Weko, team leader and senior analyst of the OECD Higher Education Policy team, provided advice throughout the project. Paulo Santiago, Head of the Policy Advice and Implementation Division in the Directorate of Education and Skills and Andreas Schleicher, Director of the Directorate for Education and Skills, reviewed the publication and provided feedback.

Marika Prince edited the report and provided administrative support for the finalisation of the project. Rachel Linden assisted with the editorial and production processes.

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Abbreviations and acronyms

	Original	English
AHOVOKS	Agentschap voor Hoger Onderwijs, Volwassenenonderwijs, Kwalificaties en Studietoelagen	Agency for Higher Education, Adult Education, Qualifications and Student Grants
BOF	Bijzondere onderzoeksfonds(en)	Special Research Fund(s)
CRIS		Current Research Information System
ECOOM	Expertisecentrum Onderzoek en Ontwikkelingsmonitoring	Centre for Research and Development Monitoring
ERC		European Research Council
EWI	Departement Economie, Wetenschap en Innovatie	Department of Economy, Science and Innovation
FWO	Fonds Wetenschappelijk Onderzoek – Vlaanderen	Research Foundation – Flanders
GBARD		Government budget allocations for research and development
GERD		Gross expenditure on research and development
GUF		General University Funds
HERD		Higher education expenditure on research and development
iBOF	Interuniversitaire Bijzondere onderzoeksfonds(en)	Interuniversity Special Research Fund(s)
IOF	Industrieel onderzoeksfonds(en)	Industrial Research Fund(s)
JA	De Jonge Academie	The Young Academy
KVAB	Koninklijke Vlaamse Academie voor Wetenschappen en Kunsten van België	Royal Flemish Academy of Belgium for Science and Arts
NVAO	Nederlands-Vlaamse Accreditatieorganisatie	Accreditation Organisation of the Netherlands and Flanders
NWO	Nederlandse Organisatie voor Wetenschappelijk Onderzoek	Dutch Research Council
PBF		Performance-based funding
PBRF		Performance-based research funding
PWO	Praktijkgericht Wetenschappelijk Onderzoek	Practice-oriented Scientific Research
SMART		Specific, measurable, achievable, relevant and time-bound
SOC	Strategisch onderzoekscentrum	Strategic Research Centre
SOW	Sokkel Onderwijs	Base component for education (funding model)
SOZ	Sokkel Onderzoek	Base component for research (funding model)
STUVO	Studentenvoorzieningen	Student services
VABB-SHW	Vlaams Academisch Bibliografisch Bestand voor de Sociale en Humane Wetenschappen	Flemish Academic Bibliographic Database for the Social Sciences and Humanities
VLAIO	(Vlaams) Agentschap Innoveren en Ondernemen	(Flemish) Agency for Innovation and Enterprise
VLHORA	Vlaamse Hogescholenraad	Flemish Council of University Colleges
VLIR	Vlaamse Interuniversitaire Raad	Flemish Interuniversity Council
VLOR	Vlaamse Onderwijsraad	Flemish Education Council
VOW	Variabel onderwijsdeel	Variable component for education (funding model)
VOZ	Variabel onderzoeksdeel	Variable component for research (funding model)
VVS	Vlaamse Vereniging van Studenten	Flemish Union of Students
UAS		University of Applied Science
UC		University College

Executive Summary

The Flemish Community of Belgium has a diversified publicly funded system of higher education, with five research universities and 16 professionally oriented university colleges. This network of institutions and the wide range of programmes they offer have ensured broad access to higher education for large sections of society and allowed the Flemish Community to achieve high rates of tertiary education attainment. The recent transfer of short-cycle associate degree programmes from the adult education sector to university colleges has further expanded the scope and reach of the higher education system. Over the last decade, academic staff in Flemish universities have been instrumental in achieving a significant increase in the number of publications produced by the Flemish research system. The Flemish Community now ranks among the top-performing OECD jurisdictions in terms of research productivity and citation impact.

Average spending per student on higher education institutions in the Flemish Community is around 30% above the OECD average, at a level similar to that in Austria and the Netherlands. Around 85% of total spending on higher education institutions comes from public sources. The Flemish Government uses carefully designed formulas, incorporating output variables, to allocate funds for core operations and for research to institutions and has significantly increased investment in research in recent years. However, budget envelopes for core operating funds have not fully kept pace with increased enrolment in the last decade, which, in combination with a largely open access admission system, has placed strain on institutional budgets. Moreover, challenges exist in a number of areas, including student progression and completion rates, support for research in university colleges, gender balance in the senior ranks of universities and the capacity of the system to respond to growing demand for lifelong learning. The table below provides a more detailed summary of key policy issues identified during the review and the corresponding recommendations formulated by the review team.

Table 1. Summary overview of main findings and recommendations

Policy issues	Recommendations
1. Operating funds for higher education institutions	
Public funding – the main source of income of Flemish higher education institutions – has not increased in line with enrolment growth over the last decade, leading to a real-terms decline in funding per student.	1. Over time, seek to increase the value of the budget envelope for the operating grant to higher education institutions to restore the real-terms value of payments to institutions.
Planned multi-annual budgetary allocations for higher education institutions (growth paths) have been established in legislation, but subsequently not implemented.	2. Revise the budget trajectories (growth paths) for the budget envelope for the operating grant established in legislation to ensure they are realistic and can be respected in practice.
Funding systems that establish fixed unit payments (per credit or per student) provide greater income predictability for institutions than purely distributive models like that in the Flemish Community. However, such a system may not be compatible with an open access admission model.	3. Analyse the budgetary implications of a funding model for the operating grant that establishes fixed unit payments in advance.
The funding model for university colleges uses multiple weighting factors between 1 and 1.6 for different subject areas, often without a clear link to real differences in the cost of providing the programmes.	4. Analyse the impact of using a simplified set of subject-area weightings for professional programmes, with a view to reducing the complexity of this aspect of the funding model.
Comparatively long times-to-degree remain a challenge. Previously proposed and apparently viable reforms to help address this have not been implemented.	5. Revisit previously proposed reforms to promote student progression, including changes to the “learning credit" system.

Policy issues	Recommendations
The Flemish Community has made considerable efforts to enhance information and guidance to support prospective students in making good study choices.	6. Continue to support initiatives and tools to help students to make sound choices about what and where to study.
Mechanisms for ensuring the accountability of higher education institutions to citizens and government are less developed in the Flemish Community than in many comparable jurisdictions.	7. Consider introducing a system of institutional agreements between government and higher education institutions to provide a clear accountability framework.
The Flemish Government provides limited funding specifically for future-oriented investments. In other OECD jurisdictions, such funding is linked to institutional agreements with positive effects.	8. Create a future-oriented "strategic investment fund" to support higher education institutions achieve key goals.
Earmarked public funding for capital investment is insufficient to meet needs and institutions fund most capital investment from their own funds. Further analysis is required to clarify investment needs and to inform a revised approach to capital investment.	9. Quantify the capital investment needs of the higher education sector as a basis for redesign of the approach to capital funding.
2. Direct-grant funding to higher education institutions for research	
Despite recent increases, Flanders has not yet reached its target of allocating the equivalent of 1% of GDP to research from public sources.	10. As public finances allow, continue to increase public funding for research in higher education.
The research component of the operating grant to universities and the Special Research Funds (BOF) use different allocation parameters.	11. Analyse the impact of allocating the research component of the operating grant using the same parameters as for the BOF.
The Flemish university research is highly productive, annual changes in research performance are modest and research is a long-term activity.	12. Analyse the detailed effects of allocating the BOF to universities, for four or five-year periods at a time.
A move to longer-term funding allocations would justify further accountability and transparency measures to demonstrate use of funds.	13. Consider requiring universities to publish institutional research strategies, potentially as part of institutional agreements.
The increase in externally funded, project-based research activities in universities has increased use of institutional infrastructure and central services without adequately covering the costs of these resources.	14. Take steps to increase the overhead rates applied for resource-intensive research projects funded through Flemish external competitive public funding mechanisms (such as the FWO).
If government agencies increase the overhead rates paid to institutions for research projects, it is fair to ask the same of private funders.	15. Higher education institutions should be required to apply the same overhead rates for research financed by private funders.
Government and society lack transparent information on the costs of activities, including overhead costs, in higher education institutions.	16. The Flemish higher education sector should develop and introduce common standards for activity-based cost accounting.
There is scope to develop a clearer, common vision of what effective practice-oriented research looks like and share good practice.	17. The Flemish university college sector should develop a system-wide strategy to guide the future of practice-oriented research.
University colleges lack the resources to expand their activities and fulfil their potential in the area of practice-oriented research (PWO).	18. Progressively increase the share of total public funding for research (and level of funds) provided to university colleges.
While a case exists to invest more in practice-oriented research in university colleges, a clear strategy for using any extra funds is needed.	19. Require university colleges to develop institutional strategies for practice-oriented research, complementing the system strategy.
3. Funding for students	
The financial aid system for students is well designed, but there is scope to improve information for students about the full costs of study.	20. Examine options for improving information for students about the full cost of study on relevant websites.
The allocation method for public funding for student services (STUVO) does not differentiate payments to account for differences in support requirements from students with different profiles.	21. To inform possible reform, analyse how the allocation of the funds for student services could be adapted to take better account of variation in student needs between institutions.
The "grant credit" system regulating eligibility for student grants is aligned with the "study credit" system regulating funded study places.	22. Ensure this alignment is maintained if changes are made to the study credit system to promote swifter progression (see 5).
4. System-level frameworks governing human resources in higher education	
Despite measurement challenges, it is clear that student-to-staff ratios in Flemish higher education are among the highest in the OECD.	23. Ensure that a proportion of additional public funding for higher education (see 1) can be used to create new staff posts.
Men occupy a large majority of the senior ranks in higher education institutions in the Flemish Community – particularly in universities.	24. Closely monitor progress towards the goals of the Charter on Gender in Academia, introducing binding targets if required.
Rigorous Dutch-language requirements for permanent academic staff positions make it hard for Flemish higher education to attract and retain the best international talent.	25. Introduce greater flexibility in the formulation and application of the Dutch-language requirements for initial appointments to permanent academic posts.
5. Key trends in higher education with an impact on future resourcing policy	
Flemish higher education faces challenges, including increasing the offer of post-initial continuous learning and exploiting the potential of digitalisation, but, unlike some comparator jurisdictions, the system lacks a coherent overarching strategy to guide future policy and investment.	26. Collectively develop an overarching Flemish strategy for higher education, encompassing all key missions of the sector, as a core reference document.

1 Assessment and recommendations

This chapter synthesises key policy issues and recommendations identified by the OECD review team in the five main areas covered by the review: the core public funding model for higher education institutions used in the Flemish Community of Belgium; public funding to Flemish higher education institutions earmarked for research; financial aid to students; system-level frameworks governing human resources policies in higher education and key trends in higher education that will affect future resourcing policies.

1.1 A diversified higher education system that performs strongly in many areas

High attainment rates and good labour market outcomes, but long times-to-degree

The Flemish Community of Belgium[1] has a diversified publicly funded system of higher education, with five research universities and 16 professionally oriented university colleges. All university colleges are part of a formal association with one of the five universities, in an arrangement designed to facilitate cooperation within the system. This network of institutions has ensured broad access to higher education for large sections of society and allowed the Flemish Region to achieve high rates of tertiary education attainment. In 2020, 51% of residents in the Flemish Region aged between 25 and 34 held a third-level qualification, compared to an OECD average of 45% and an average in the 27 European Union member states (EU-27) of 41% (OECD, 2021[1]; Eurostat, 2021[2]). The recent transfer, in 2019, of short-cycle associate degree programmes from the adult education sector to university colleges has further expanded the scope and reach of the Flemish higher education system.

The Flemish economy – like that of Belgium more generally – is knowledge intensive and graduates from Flemish higher education institutions typically have little trouble finding work in graduate-level occupations. In 2020, 91% of young recent graduates from tertiary education in the Flemish Region – those aged 20-34 having graduated in the previous one to three years – were in employment, compared to a Belgian average of 88% and an EU-27 average of 84% (Eurostat, 2021[3]). Data from 2018 show that individuals of working age (25-64 years old) in Belgium who held a bachelor's degree as their highest level of qualification earned, on average, 29% more than upper secondary and post-secondary vocational graduates, while those who held a master's degree or doctorate earned 64% more (OECD, 2021[1]).

Flemish higher education operates largely with an "open access" admission system. As a rule, anyone who has successfully completed upper secondary education and meets basic eligibility criteria is free to enrol in higher education, in the discipline of their choice. Restrictions (entrance examinations or enrolment limits) exist only in the performing and visual arts, medicine and dentistry. Students also have considerable flexibility in the number of study credits for which they enrol each year. The open access admission system and flexible enrolment arrangements bring advantages in terms of the accessibility of higher education. However, they are also key factors affecting the comparatively long average time that Flemish students take to graduate, compared to their counterparts in OECD jurisdictions with more selective admission procedures in higher education and more rigid programme schedules. Only one-third of students enrolled in bachelor's degrees graduate within the typical theoretical duration of three years – one of the lowest "on time" graduation rates among OECD jurisdictions (OECD, 2019[4]). Although, three years after the end of the theoretical programme duration, the proportion of bachelor's students that graduate successfully increases to around two-thirds, drop-out rates and time-to-degree are key policy concerns for the Flemish authorities (Flemish Government, 2019[5]).

Impressive performance in terms of research output and the impact this achieves

The five Flemish universities are heavily engaged in basic (fundamental), mission-driven and applied research, as well as knowledge transfer and cooperation with the business and public sectors. As part of their core mission, Flemish university colleges conduct practice-oriented research in fields related to the programmes that they offer. They may also engage in applied and mission-oriented research activities in cooperation with universities. Such research forms part of these institutions' broader engagement with businesses and the professional community.

Researchers and academic staff in Flemish universities have driven a significant increase in the number of publications produced by the Flemish research system over the last decade. In 2018, researchers based in the Flemish Region published 28 high-quality journal articles in the natural and social sciences for every 10 000 inhabitants in the region, compared to just 18 a decade earlier. In terms of publication rate relative

to population, this places Flanders on a par with the Netherlands and Finland and above the levels achieved in the United Kingdom, Germany or France. Of major comparator jurisdictions in Europe with equivalent data, only Sweden and Denmark have notably higher rates of scientific publication than Flanders (ECOOM, 2019[6]). Publications produced by researchers based in Flanders achieve one of the highest observed citation rates of major European research systems. Only Ireland, Denmark and the Netherlands achieve higher impact from their published research among the European comparator systems examined for this review (ECOOM, 2019[6]).

Per-student expenditure on higher education institutions in the Flemish Community is above the OECD average

Average total expenditure on higher education institutions in the Flemish Community for each full-time equivalent (FTE) student was 28% above the average of OECD member countries in 2017 (the most recent year for which international data were available at the time of writing). This placed per-student expenditure in the Flemish Community at roughly the same level as in the Netherlands and Austria. Among OECD jurisdictions, only two Nordic higher education systems (Norway and Sweden) and the three predominantly English-speaking countries (Canada, the United Kingdom and the United States) spent more on average per FTE student on higher education institutions than the Flemish Community in 2017 (OECD, 2020[7]). These figures refer to average per-student spending levels across all types of higher education institution (public and private universities and non-university institutions) in the jurisdictions concerned and include spending destined for all activities (learning and teaching, research and service).

On average, funds from public sources accounted for 85% of total expenditure on higher education institutions in the Flemish Community in 2017 (OECD, 2020[7]). This is broadly the same proportion as in higher education systems such as Germany and Sweden, but above the OECD average of 67% (OECD, 2020[7]). The comparatively high reliance of Flemish higher education institutions on public funds primarily reflects the comparatively low (and tightly regulated) tuition fees paid by students (OECD, 2020[7]). Flemish higher education institutions have been successful in attracting private revenue from other sources, such as contract research and service activities. Such activities account, on average, for around 10% of total annual revenue in universities and around 4% in university colleges (Flemish Government, 2020[8]; Flemish Government, 2020[9]).

More detailed information on organisation, performance and funding of the Flemish higher education system is provided in Chapter 2 of this report. The remainder of this chapter synthesises key policy issues and recommendations identified by the OECD review team in the five areas identified in the terms of reference of the review:

1. Core public funding for higher education institutions (the *werkingsmiddelen* or operating grant);
2. Institutional funding to higher education institutions for research;
3. Financial aid for students;
4. System-level frameworks governing human resource policies in higher education and;
5. Key trends in higher education with a likely impact on future higher education resourcing policy.

1.2 A carefully designed core funding model with weaknesses in practice

With a clear rationale, the Flemish Community combines a relatively large number of variables in its allocation formula for the teaching grant

The core operating grant for Flemish universities includes distinct elements for teaching and research, while the core grant for university colleges includes only the teaching element. The teaching grant has

been calculated using the same basic formula for both institution types since the model was introduced in 2008. The core research grant for universities is calculated using a different set of parameters (see Section 1.3 below). The teaching grant is composed of a base component (*sokkel*), calculated based on student enrolment data, and a variable component, which takes into account enrolment data, completion of study credits and degree completion.

The calculation of the variable component of the teaching grant applies differentiated weightings to study credits for which students are enrolled, study credits completed and degrees completed in different subject areas (with different weighting systems for universities and university colleges). The calculation also applies an additional weighting (a factor of 1.5) for students in receipt of a study grant, students with disabilities and for students combining work and study. To calculate the grant for each institution for a given financial year (year "t"), the model uses average values for the input and output variables for a historical five-year period (t-7/t-6 to t-3/t-2).

The formula for the teaching grant was designed to create a fair and transparent funding allocation mechanism, which took account of institutions' real activity levels in learning and teaching (captured through enrolment data) and provided incentives for institutions to support students to progress in their studies and to complete their degree programmes (by funding credit and degree completion). As in many other OECD jurisdictions that use formulas to distribute funding to higher education institutions, subject-area weightings were used to take into account notional cost differences in providing programmes in different fields of study. As in Ireland, but unlike funding systems in most OECD jurisdictions, the Flemish funding model introduced specific weighting for target populations to provide additional resources to institutions for students from groups that typically require additional support. Finally, by basing calculations on historical data, averaged over a five-year period, the funding model sought to ensure predictability and prevent potentially harmful year-on-year fluctuation in the total revenue received by an individual institution (Flemish Government, 2015[10]).

Like the Flemish Community, a large majority of OECD jurisdictions responding to the 2020 OECD Higher Education Policy Survey (HEPS) use formulas based on student-related metrics to allocate at least part of core public funding to higher education institutions. Some systems, such as those in Denmark, the Netherlands and Norway, combine variable (formula) funding with an element of fixed, historical funding, while others, such as Finland and Sweden, provide all core funding for teaching using a formula. Funding models in other OECD jurisdictions tend to use either enrolment (input) variables – as in Ireland and Scotland – or graduation or credit completion variables (outputs) – as in Denmark and Finland – rather than combining these two variable types, as in the Flemish system.

As implemented, the allocation model for the teaching grant creates a comparatively weak link between institutional activity levels and funding received

Like funding formulas in several other OECD jurisdictions, including Finland and the Netherlands, the allocation model used in the Flemish Community is "distributive", in that it uses calculation parameters to divide (distribute) the available pot of public funding among institutions. In simplified terms, the unit payment that institutions receive for each student enrolled, or each credit they complete in a given field of study, is dependent on the size of the total budget envelope available for the teaching grant and the total level and type of student activity (enrolment and completion by different student types in different fields of study). If the level of student activity increases, but the budget envelope remains the same, unit payments decline. This contrasts with "additive" funding models, such as those in Denmark and Scotland, that fix unit payments (per student or per credit) in advance and thus guarantee institutions a particular level of income per unit of activity in a given year. Whereas – aside from the specific study fields with admission limits noted above – Flemish higher education institutions are required to accept all eligible students that wish to attend their programmes, systems that use fixed funding rates per student or per credit nearly always

impose recruitment caps at system of institutional level to ensure total spending remains within the available budget envelope.

In the Flemish Community, the level and type of student activity in each institution changes from year to year depending on students' enrolment decisions and behaviours in a comparatively flexible system. In comparison to institutions in many OECD countries with selective admission and enrolment caps, Flemish universities and university colleges have limited scope to control student numbers in different programmes. Meanwhile, the size of the budget envelope in a given budget year theoretically depends on the nominal annual budget trajectory ("growth path") established in advance by government; the level of annual indexation to account for inflation and the influence of a specific adjustment mechanism built into the model (the "click system" – see Chapter 3). In practice, the available budget envelope also depends on political choices on whether and how to implement the budget allocations and adjustments provided for in legislation. In recent years, successive Flemish governments have not always increased the budget envelope in line with inflation, planned budget trajectories or upwards adjustments triggered by enrolment increases. Current (2021) budgetary pressures mean this trend is continuing (Flemish Government, 2020[11]).

The budgetary measures taken over the last decade, combined with increasing enrolment in higher education, have contributed to a real-terms decline in the average amount of core public funding many that institutions receive for each student they educate. OECD data suggest that average public spending on core and ancillary services in Flemish higher education institutions (universities and university colleges combined) decreased by 3% between 2012 and 2017, after accounting for inflation (OECD, 2020[7]). Disaggregated Flemish data show that between 2015 and 2019, per-student core funding fell by 2% in real terms in university colleges, while remaining roughly stable in universities (Flemish Government, 2020[8]; Flemish Government, 2020[9]).

For individual institutions, the combination of the multiple moving variables in the system – student enrolment and progression patterns on one side, and government budgetary decisions on the other – make it challenging for institutions to calculate and plan their annual budget in advance. The funding model provides a fair and objective mechanism to distribute available funds. The use of five-year historical average values in the calculations provides a basis for predictability in funding flows, albeit at the expense of aligning payments received closely with real activity levels in a given year (there is inevitably a time lag between changes in activity and changes in payments). However, the model's complexity undoubtedly reduces its transparency for non-specialist institutional managers and academic staff, while the failure to increase the available budget envelope with planned budget trajectories and adjustment mechanisms in recent years has significantly reduced the predictability of the funding model in practice, and further weakened the link between activity and payments.

Respecting the budget trajectories and adjustment mechanisms established in legislation would help to address the real-terms fall in funding in some programmes and increase the predictability of the funding system for institutions. However, the combination of an open access admissions system and largely closed budget envelope inevitably leads to unit funding rates (payments per study credit enrolled or completed in particular subject area, for example) fluctuating over time. Eliminating such fluctuation would require the use of fixed unit funding rates, but this is unlikely to be financially sustainable in a higher education system with an open access admissions model system, such as that in the Flemish Community. Particularly in the current economic climate, the financial implications of such a model are unlikely to be palatable for the Flemish Government. Nevertheless, given the concerns about ensuring transparency and simplicity in funding in parts of the Flemish higher education sector, it would be instructive to analyse the effects of such an additive model, both on public funding requirements and on the distribution of funds between institutions.

Recommendations

1. In recognition of the crucial role of higher education in contributing to Flemish Government goals, notably in the fields of skills and knowledge creation and funding shortfalls in recent years, the Flemish Government should seek to **increase the value of the budget envelope for the operating grant to higher education institutions**, as soon as feasible from a budgetary perspective. The objective might be to restore the real-terms value of payments to the levels provided at the time of the introduction of the model. As a minimum, the Flemish Government should provide a transparent analysis of the cost of restoring funding levels and, in light of the real-terms cuts implemented in recent years, establish a realistic total funding level and timeframe for reaching this.
2. The Flemish Government should **review the budget trajectories (growth paths) established in legislation** for the budget envelope for the operating grant to higher education institutions, revise these to ensure they are fiscally viable and, subsequently, respect their engagements towards higher education institutions by providing the level of funding planned. The current situation, where planned budget allocations are specified in law, but not implemented significantly reduces the predictability of the funding system and the ability of higher education institutions to plan effectively.
3. As an input to a potential future review of the core funding model, the Flemish Government should **analyse the budgetary implications of a funding model for the core operating grant that establishes fixed unit payments** for enrolled credits, credits passed and degrees awarded in different price categories, based on careful projections of student numbers. As noted, such as system may not be fiscally sustainable in an open access higher education system such as that in the Flemish Community. Only more detailed analysis will confirm this.
4. The Flemish Government should **analyse the impact of using a simplified set of subject-area weightings for the professional programmes**, with a view to reducing the complexity of this aspect of the current model.

The inclusion of output indicators in the funding model has had no clear impact on progression and completion rates

OECD member countries use multiple policy tools in their efforts to ensure higher education institutions perform their activities to a high quality and make efficient use of resources. Among these tools are regulatory measures relating to the qualification of staff, external accreditation and quality assurance systems, financial audits, systems of transparency and reporting and public funding systems. Research in different OECD jurisdictions suggests that performance-linked formula funding models tend to have limited effects on institutional performance and may generate perverse effects (Ortagus et al., 2020[12]). In the Flemish Community, there is no evidence of the current funding model for the teaching grant, which includes credits passed and degrees awarded as output parameters, leading to unintended consequences, such as a lowering of standards or increased selection in institutions. Equally, however, there is no robust evidence of the model having positive effects on the variables it sought to influence: student progression, completion rates and time to degree.

Given that the inclusion of output indicators in the funding model appears to do no harm and highlights the importance of progression and completion as policy objectives, there is no pressing reason to eliminate these indicators from the funding model. Moreover, a radical change to the parameter mix in the funding model risks creating instability in the system for no clear benefit. Nevertheless, it would be unwise to

assume that the inclusion of output parameters in the funding formula will have a significant impact on progression and completion rates in the years to come.

The commitment in the Flemish Community to allowing open access to higher education means that the system will always have to deal with higher rates of initial re-orientation of students, slow progression and student drop-out than systems that select students rigorously at entry. Nevertheless, there may be scope to increase the incentives for students to progress effectively in their studies by adjusting the systems of "learning credit" and study progress monitoring, while maintaining and developing existing and valuable orientation and support services for students as they enter and advance within higher education.

Alongside such actions, there is also scope in the Flemish higher education system to exploit the potential of institutional agreements as a complementary mechanism to strengthen accountability, transparency and focus on outcomes. Evidence from other OECD jurisdictions suggests that carefully designed performance or quality agreements can be an effective way for institutions to demonstrate commitment to societally relevant goals and focus efforts to achieve these, while allowing differentiation and respecting the autonomy of institutions for designing and implementing their own strategies (de Boer et al., 2015[13]; Reviewcommissie Hoger Onderwijs en Onderzoek, 2017[14]; O Shea and O Hara, 2020[15]). Institutional agreements in other OECD jurisdictions have had positive effects on dialogue between public authorities and higher educations, strategic planning in institutions and communication and results-orientation among staff.

Recommendations

5. Higher education authorities and stakeholders in the Flemish Community should **revisit previously proposed reforms of the systems for regulating student progression in higher education** (Werkgroep "Studievoortgangbewaking", 2014[16]). It will be important to analyse further the likely impact of the proposed reforms to the system of learning credit, such as the removal of the 60-credit bonus students receive on passing their first 60 credits and the introduction of maximum timeframes for passing 60 credits (see Chapter 3 of this report for further discussion of this point).
6. Higher education authorities and stakeholders in the Flemish Community should **continue to support and develop promising initiatives to help students make sound choices** about what to study, such as the "calibration test" (*ijkingstoets*), and continue to support institutions to invest in high-quality guidance and support services for students.
7. To strengthen further the accountability and results-orientation of the higher education system, the Flemish Government, in partnership with the higher education sector, should **consider introducing a system of quality agreements or compacts** between government and each higher education institution. Institutions could be invited to formulate key development objectives for a four or five-year period, with specific actions and methods for assessing progress in relation to the goals. Agreements could be limited to specific areas of institutional activity (such as quality of the educational experience and student guidance), as in the Netherlands, or cover a wider range of activities, including research and service, as in Ireland. The appropriate coverage for institutional agreements in a Flemish context would need to be decided as part of the domestic policy-making process. It will be important to draw on lessons from agreement systems that have been implemented in jurisdictions with similar characteristics, in particular, the Netherlands, Finland, Denmark, Ireland and Austria. Further suggestions are formulated in Chapter 3 of this report.

Institutional funding for strategic development is limited

A lack of a recurrent funding allocation for strategic investments and the limited availability of funds for capital investment were identified as significant challenges for Flemish higher education institutions during the review interviews. Flemish institutions are not alone and few higher education funding models make explicit allocations for strategic investment. A notable exception to this is Finland, which allocates 15% of total public funding to universities and 5% of total funding for universities of applied science for strategic development. These funds are allocated to institutions in return for strategies negotiated in performance agreements.

The issue of funds for capital investment deserves specific attention. The level of annual public funding earmarked for capital investment allocated in recent years (around EUR 33 million) is widely considered by Flemish stakeholders to be insufficient. At the same time, institutions are free to use core funding for capital investment, as many institutions do. Although there would appear to be a case for an increase in funding for capital investment, it is difficult to formulate specific recommendations on the level of resources needed for capital investment on the basis of the evidence available to this review. Particularly in light of competing pressures on public spending, further analysis of capital investment needs in the higher education sector and of options for financing these will be required at Flemish level. Given the comparatively low level of the funds earmarked for capital funding and the widespread practice of using other funds for capital investment at institutional level, the rationale for maintaining a separate funding line could be called into question.

Recommendations

8. The Flemish Government should consider bundling existing or planned earmarked and targeted funding for higher education institutions (outside the core funding model) to **create a "strategic investment fund" to support higher education institutions** in achieving the goals established in the proposed institutional agreements. The existing capital grant could be integrated into this fund. This would allow a simplification of funding streams and less reliance on potentially burdensome calls for proposals, while maintaining a link between objectives (established in institutional agreements) and funding received. If the option of implementing institutional agreements were adopted, funding could be provided in exchange for finalising the institutional agreement and for reporting on progress. If sufficient funding were available, a "bonus" payment for successful implementation at the end of the agreement period on the current Dutch model could be considered.
9. The Flemish Government, in partnership with the higher education sector, should **review and quantify the capital investment needs** of the higher education sector as a basis for making strategic decisions on future policies to support capital investment. A transparent analysis of capital investment needs and of the feasibility of alternative funding options (borrowing, attracting private sector investment, etc.) would provide a solid basis for future policy. Should additional funding be both required and available, this could be directed through the core operating grants or the proposed "strategic investment fund" proposed above.

1.3 A generally robust model for funding research, with scope for improvements

The Flemish authorities provide significant direct-grant funding to higher education institutions for research

Flemish higher education institutions have access to a diversified set of public funding streams to support research. Universities receive a basic allocation for research through the element of operating grant, which serves primarily to support staff and running costs. In 2020, this amounted to roughly EUR 385 million for the five Flemish universities, with funds distributed through a formula driven by the number of doctorates awarded, bibliometric indicators and variable linked to academic staff appointments. In addition, the Flemish Government provides:

- Universities with an earmarked grant for basic research, which they allocate internally: the Special Research Funds (*Bijzondere onderzoeksfondsen* or BOF) – EUR 220 million in 2020;
- An allocation of funds to support the development of research capacity in academic programmes transferred from university colleges to universities in 2013, referred to as Supplementary Research Funds (*Aanvullende onderzoeksmiddelen*) – EUR 86 million in 2020;
- Funds allocated to the associations of universities and university colleges to support strategic basic research and applied research and to stimulate knowledge transfer and valorisation: the Industrial Research Funds (*Industrieel onderzoeksfonds* or IOF) and funding for cooperation with the business sector (referred to in a Flemish context as "interface activities") – EUR 51.7 million (IOF) and EUR 4.5 million ("Interface activities") in 2020 and;
- An allocation of funds for "practice-oriented research" (*Praktijkgericht wetenschappelijk onderzoek* – PWO) in university colleges, allocated as a supplementary component of the operating grant for these institutions (*PWO-middelen*) – EUR 30 million in 2020.

In addition, researchers associated with the five universities are able to apply for competitive, external research grants, administered by the Research Foundation – Flanders (FWO), the Flemish research council. This is the main source of funding for doctoral and post-doctoral positions, as well as an important source of funds for basic research, accounting for around 6% of total revenue to the five universities in 2019 (Flemish Government, 2020[8]). The focus in this review has been on the direct institutional grant funding for research, rather than the external, competitive funding provided by the FWO. The analysis in the review examined the mix of funding for different types of research, the design of performance-funding mechanisms, the question of research overhead and distribution of public research funding between the university and non-university sectors.

The current mix of funding streams allows researchers considerable freedom to engage in curiosity-driven, mission-oriented and applied research

This review has examined the allocation of funding for research to higher education institutions from a necessarily broad perspective and not examined the focus and distribution of the research projects actually undertaken in Flemish universities and university colleges. Nevertheless, available information on the design of policy instruments and the distribution of research spending by type of research shows that the Flemish research funding system delivers substantial and diversified resources for research in universities. The research element of the core operating grant for universities recognises the need to support research as one of the foundations of the university system. The Special Research Funds (BOF) provide earmarked funding for basic (fundamental) research to permit universities to develop their research profiles and allow institutions almost complete latitude in the internal allocation and use of these funds. The Industrial Research Funds (IOF) provide significant resources for strategic basic and applied research and promote direct cooperation between universities and university colleges, as well as between the higher education

sector and businesses. These internal funds are complemented by the competitive funding system administered by the FWO and extensive contract research activities.

The evidence base for recommending a particular ratio between funding for strategic or mission-oriented research (where research funders establish clear priorities) and curiosity-driven research (where researchers are free to set their own research priorities) is weak. Moreover, national and international data that seek to capture expenditure on these types of research are potentially misleading because of the inherent ambiguity of the definitions used and the difficulty of classifying government spending by research type in a satisfactory manner. If there is a case to adjust the current balance between strategic and curiosity-driven research in Flemish higher education, that case must be made based on a more thorough-going analysis of research activity in universities and evidence that the current focus of resources is detrimental to particular types of research. Taking into account the limited international evidence, this review concurs with the 2018 evaluation of the Flemish research funding system (Van der Beken et al., 2018[17]) in concluding that there is no compelling reason to alter the current distribution of funds between the different funding streams for research.

The level of funding directed through these funding streams is another matter. Research in Flemish universities is certainly not poorly funded in comparison to average funding levels in other OECD jurisdictions. Nevertheless, in absolute terms, Flanders spends less on its university research than some comparable jurisdictions, such as the Nordic countries – research systems that have some of the strongest research performance in the OECD and against which Flanders can legitimately be benchmarked (OECD, 2021[18]). It is also clear, notwithstanding the limitations of research spending targets, that the Flemish government has not yet reached its own target of spending 1% of GDP on public funding for research and development. In 2019, Flemish Government spending on research amounted to around 0.7% of GDP. When the Flemish share of Belgian federal government spending on research is taken into account, this rises to 0.8% and, when funds from European Union framework programmes are included, to 0.87% (Debackere et al., 2021, p. 21[19]). Taking into account the strong performance of the Flemish university research system against objective – if imperfect – measures of research productivity and quality (see above and Chapter 4 for more detailed discussion) and the good performance of systems with higher funding levels, increased investment in research in the sector could be justified.

Recommendations

10. As the state of public finances allows, the Flemish Government can legitimately **continue to increase public funding for research in higher education,** as part of broader efforts to reach the government target of spending the equivalent of 1% of Flemish GDP on research and development from public funds (including federal and European funds). In line with the considerations discussed below, there is a case to **increase the share of total public funding for research provided to university colleges** to enable them to develop their capacity in practice-oriented research. This might be a priority for allocation of additional funding when this becomes available. In the absence of a strong case for rebalancing the research funding system for universities, other available additional funding could be used to increase the resources distributed through all the main public research-funding channels for these institutions.

The existing performance-related models for institutional research grants create positive signals, but there is scope to streamline the system and move to multi-annual funding

The design of the Flemish allocation methods for institutional research grants to universities, and the associations grouping universities and university colleges, incorporate performance metrics in an effort to promote the quality and impact of the research funded in higher education institutions. The implementation of these performance-based allocation models has coincided with a substantial increase in the productivity and impact of research from Flemish universities, although the precise contribution of the funding models to these trends cannot be proven.

In light of the already high level of performance observed in the Flemish university research system, a recent shift to reduce the weight of output indicators in the formula for allocating the Special Research Funds (the BOF key – see Chapter 4), as well as the introduction of more nuanced indicators to capture cooperation and inter-disciplinary research, is positive. Given the evidence on the effects of indicator-driven funding models, it would be unwise to over-estimate the power of these new indicators to incentivise particular behaviour patterns among researchers and institutions. However, initiatives such as the Interuniversity BOF ("iBOF") to promote cooperation between universities are already bearing fruit and the design of the funding allocation formula sends a clear and positive signal to the research community about policy priorities.

Both the model for allocating the variable component of the research element of the operating grant and the BOF key seek to reward performance, but the two allocation systems use different parameters and weights. While these differences result from the historical development of the two mechanisms, there is no clear rationale for such a difference. Moreover, the existence of two systems for calculating two separate institutional allocations for research to the same five universities creates additional administrative burden, as two sets of calculations must be made each year.

More generally, both the Agency for Higher Education, Adult Education, Qualifications and Student grants (AHOVOKS) and the Department of Economy, Science and Innovation (EWI) report that the calculation of institutional funding allocations each year represents a considerable effort, but generates relatively small changes to institutional budgets. As discussed above, it is preferable to maintain a relatively close – and regularly reviewed – link between student-related activity and the funding institutions receive, as higher education institutions only have partial control over the enrolment and progression of students. For research, this is less clearly the case. Research strategies and employment of researchers are fully within the control of institutions. Moreover, research is a long-term activity from which outputs and impacts evolve more slowly than in education, providing further justification for a longer time horizon for funding allocations. There could be a case for making research allocations to higher education institutions for longer periods and assessing performance using the established parameters for periods of more than one year.

Recommendations

11. To streamline the research funding system, the Flemish Government, in cooperation with the universities, should **analyse the impact of allocating the research component of the operating grant to universities using the same distribution parameters as for the BOF**, allowing only one distribution calculation to be made. This might mean, for example, sharing the 45% of the operating grant to universities assigned for research in the same proportions as the BOF (i.e. based on the BOF key). The analysis should consider how measures could be designed to mitigate the effects of the change on the budget received by each institution.
12. In due course, the Flemish authorities should **analyse the detailed effects of allocating the BOF to universities, using the parameters in the current BOF key, for four or five-year periods**, aligned with the periodicity of the institutional agreements proposed in above. This would contribute to reducing the burden of administering the funding model, but would require mechanisms to reduce the financial impact of changes in performance on individual universities when the budget level is recalculated every four or five years. The Industrial Research Funds (IOF) could also be allocated for the same timeframes, using a similar approach.
13. To ensure accountability and transparency, particularly if there is a move to multi-annual funding, the Flemish authorities should consider requiring universities to **establish and publish institutional research strategies**, explaining priorities for investment of the public funds allocated to them for research (the research component of the operating funds, the BOF and the IOF). This should be accompanied by a summary of measures taken to ensure the relevance and effectiveness of the use of these funds. These institutional research strategies, which would build on existing institutional strategies, **could be integrated into the institutional agreements** proposed above. Any centralised prioritisation of research activity should be sufficiently broad to allow individual researchers and research teams to tailor their research efforts to changing needs and circumstances. Moreover, strategies should also make clear how long-term, curiosity-driven research would be promoted and protected.

Overhead costs associated with competitive research are creating challenges, but greater transparency on the real cost of activities in higher education is required

Although it is not possible to quantify, it is clear that Flemish universities are feeling the financial consequences of an increase in the number of research projects and researcher positions funded by external partners, which has increased calls on institutional overheads (facilities and staff in shared and central services). When research projects are funded by external partners with insufficient allowance for overhead costs, institutions are forced to make up the shortfall with their existing internal resources. It is important for policymakers to ensure that an ambition to increase research activity is not pursued at the expense of diverting institutional resources away from other core missions, most notably learning and teaching.

Calculations of institutional overhead should be transparent and verifiable by funding bodies, elected representatives and interested citizens. This is currently impossible in Flemish higher education in the absence of transparent and consistently applied activity-based cost accounting methods. The experience of multiple European higher education systems, notably in the Nordic countries, Ireland and the United Kingdom, in implementing such costing models has shown the value of such models for understanding and demonstrating cost structures within higher education institutions.

Recommendations

14. As resources allow, Flemish authorities should **take steps to increase the overhead rates applied for resource-intensive research projects funded through Flemish external competitive public funding instruments** (notably the Research Foundation – Flanders) to align more closely with the benchmark level of 25% used in the European Union's Horizon Europe programme. Lower overhead rates may be appropriate for some types of grant, including fellowships. In revising overhead policies, it would be instructive to consult research-funding authorities in selected comparator systems to learn from their experience.
15. If overhead rates are increased within external competitive public funding instruments, higher education institutions should be **required to apply the same rates for research financed by private funders**.
16. To improve transparency for government and society in relation to costs and the use of funds within higher education, the Flemish higher education sector should **develop and introduce common standards for activity-based cost accounting** – initially for universities and, ultimately, for the whole higher education sector. Such a system should make it possible for higher education institutions to demonstrate the indirect costs associated with different activities in a comparable way and strengthen the case for overhead costs to be funded at a higher level in externally funded research. Common standards for activity-based costing should exploit existing cost accounting models used in universities and be kept as simple as possible in order to minimise administrative burden. However, the standards must allow the generation of reliable, transparent and comparable information. There is scope to draw on the experience of the Nordic countries, Ireland and the United Kingdom, which have successfully introduced such systems.

Practice-oriented research in university colleges is underfunded

The design of the allocation formulas for research funding to universities appears to be equitable and is not contested within the university sector. The allocation model for funding for practice-oriented research to university colleges, using student enrolment as the allocation parameter, is also sound, given the strong link between such research and the professionally oriented education within the university colleges. However, based on the consultations conducted for this review, it appears that the current level of core funding for practice-based research in university colleges is almost certainly too low to allow them to build their capacities in research and to fulfil their potential and their legally defined research mission.

At the same time, while individual university colleges have developed their own strategies for practice-oriented research and are taking steps to develop their internal research capacity, the review team found little evidence of a coherent Flanders-wide strategy for research in university colleges that could help to guide future investments in the sector.

Recommendations

17. As a basis for further investment in practice-oriented research in universities colleges, aimed at allowing these institutions to make an even greater contribution to Flemish research efforts, the university college sector in the Flemish Community should **develop a system-wide strategy for practice-oriented research**. Such as strategy could be developed collectively by the university colleges, with support from relevant government services and stakeholder organisations and highlight priorities for capacity development and effective approaches to structuring and implementing practice-oriented research in university colleges.
18. The Flemish Government should allocate a proportion of the increased public funding for research suggested in above to **increase the institutional grant for practice-oriented research in university colleges** (currently administered by the Ministry of Education and Training). This should be done in such a way as to increase both the level of funding for institutions and the share of the total public funding envelope for research allocated to practice-oriented research.
19. In return for increased investment, the Flemish authorities can legitimately require university colleges to **develop institutional strategies for practice-oriented research** – in a similar way to the requirement above for universities to develop research strategies. As with universities, these institutional strategies could be integrated within institutional agreements, if this instrument is implemented, or exist as stand-alone documents.

1.4 A wide-ranging system of financial aid and support services for students

The Flemish Government provides financial aid to students and earmarked grant funding to higher education institutions for student services

The Flemish Government provides direct financial support to eligible students from low-income backgrounds in the form of non-repayable student grants. The level of grants is variable for students whose family income lies between established minimum and maximum thresholds and award criteria include both income thresholds and a points system to take into account other household factors. Eligibility for a grant is based on a system of "grant credit" (*studietoelagekrediet*), whereby every student receives a "rucksack" of 60 grant credits and a bonus ("joker") of 60 credits the first time they enrol in higher education. The number of credits for which they enrol is deducted and credits are "won back" for each credit the successfully pass.

In the academic year 2019/20, an average of 30% of degree-seeking students in university colleges received grants, compared to 17% in universities (Flemish Government, 2021[20]). The number of grant recipients in the university colleges increased by 19% between 2017/18 and 2019/20. This partly reflects the incorporation of associate degree programmes into university colleges from 2019 onwards and the associated influx of students from lower socio-economic backgrounds. While all students pay tuition fees to attend higher education in the Flemish Community, students who qualify for a grant and those who come close to qualifying for a grant pay lower fees. In the academic year 2020/21, fees ranged from EUR 112 for a year's full-time enrolment of 60 study credits for recipients of full grants to almost EUR 950 for students not qualifying for government financial support.

In addition to the system of direct student aid, the Flemish Government provides a more indirect form of support to students by allocating grants to each higher education institution to provide student services (*studentenvoorzieningen* – STUVO). The total public subsidy for student services, paid to universities and

university colleges as an earmarked grant on top of the core operating grant, is around EUR 50 million annually. Legislation sets out six areas of activity that should be supported by these funds, including catering, housing services and support for students with mental or physical disabilities. Institutions and the bodies overseeing student services in each institution (the "STUVO council") have considerable latitude in the way services are organised.

The student grant system is well-designed, but there is a case to review the allocation method for institutional funds for student services

The student grant system and related system of moderated tuition fees in the Flemish Community has been carefully designed to address the financial barriers to participation in higher education faced by students from low-income backgrounds. Evidence from a range of OECD jurisdictions shows that grants are an effective way to widen access to higher education and this is likely to be the case in the Flemish Community. The Flemish grants programme is particularly flexible in terms of the number of initial qualifications for which a student can obtain financial support, but creates incentives for study progression and completion through the system of "grant credit". The current system has broad support within the higher education sector and among student groups consulted for this review.

Although not sufficient to meet the full costs of study, the value of grants in the Flemish Community is comparable to that in other wealthy northern European countries. Against this backdrop, there is no pressing case either to change the design of the grant system or, particularly in the face of competing calls on public funding, to make substantial changes to the level of grant payments in the short to medium term. However, there would appear to be scope to improve information for students about the full costs of attending higher education.

In contrast, the current method for allocation of the earmarked grants for student services (STUVO) to higher education institutions merits review. Data on the proportion of grant recipients by institution confirm a significantly higher concentration of students from socio-economically disadvantaged backgrounds in the university college sector and certain universities. It is reasonable to expect that these students will generate greater calls on STUVO services – and thus higher costs across multiple "work fields"– than students from more affluent backgrounds. Interviewees consulted during the review also highlighted the significant costs associated with providing appropriate support to students with disabilities – another group that is not evenly distributed among Flemish higher education institutions.

As data on both grant recipients and students with disabilities is readily available – as this information is used for calculation of core funding allocations – these data could potentially be used as parameters for allocating the STUVO funds. Adding such additional complexity to the allocation model could be justified if it led to funding levels responding more closely to individual institutional – and student – needs. However, higher education institutions have legitimate concerns about how students from different target groups are defined and the risks of institutions "gaming" the system to claim additional resources. As implementing such a change with a stable budget envelope would result in losers and winners, and potentially destabilise the funding of STUVO services in the institutions that lose, a change can only realistically be made through the injection of additional funding. While the numbers of grant recipients and disabled status would appear logical variables to use in a revised allocation formula for STUVO funds, it will naturally be important to develop a revised system in close collaboration with the specialists working directly with STUVO activities.

Recommendations

20. Drawing on existing cost studies and potentially taking inspiration from the US concepts of "cost of attendance", "expected family contribution" and "financial need", Flemish higher education institutions, in partnership with the Flemish authorities, should consider options for **improving information for students about the full cost of study**. Information resources could include simulations of the costs of attending higher education for different student profiles in different fields of study, thus complementing information on the grants system. This action would support the recommendations of the Flemish Education Council's recent advisory report on the affordability of higher education (VLOR, 2021[21]).
21. As a basis for further consultations and decision-making, the Flemish authorities, in cooperation with the higher education sector, should **analyse how the allocation of the STUVO funds to higher education institutions could be adapted** to allocate additional funding to higher education institutions with high proportions of students with additional learning needs. The introduction of any such system would require an injection of additional funds to ensure no institution loses a significant level of annual STUVO funding.

Using student financial aid to influence study choices is unlikely to be effective in a Flemish context, but incentives for study progression should be kept under review

There is little compelling international evidence on the effectiveness of top-up grants or equivalent financial aid mechanisms on steering students in their choice of study programme. Part of the challenge of using student support mechanisms to incentivise particular study choices is that study choice in general – and appropriate study choice in particular – depends on many non-financial factors. The interest and the aptitude of the student for particular study fields remain crucial. In an open access, low-fee system such as that in the Flemish Community, it is also unlikely that mechanisms (such as fee discounts) trialled in selective, high-fee systems in the United States would be directly applicable, even if their effectiveness in some contexts could be proven.

The current Flemish model of student financial aid does create incentives for progression and completion. An earlier recommendation suggests review and refinement of the current system of learning credit, which appears to create too limited an incentive for students to enrol at an appropriate study intensity and work towards swift progression and timely completion of their studies. In this context, it will be important to ensure that the system of "study credit" and "grant credit" are appropriately aligned. Without more detailed data and simulations of the impact of changes to the system of grant credit, it is not possible to conclude whether the current system would require any adjustment to ensure an appropriate balance between incentivising progression and allowing leeway for some initial failure or re-orientation in study paths.

Recommendation

22. As part of the review of the system of learning credit recommended above, the Flemish authorities should also review the system of grant credit to ensure it creates strong incentives for student progression and completion and that the two credit systems are aligned.

1.5 Student-to-staff ratios, gender balance and digital skills require attention

System-level frameworks govern many aspects of employment in Flemish higher education institutions

Academic and non-academic staff in the Flemish Community have distinct statuses and employment conditions depending on whether they work in universities and university colleges. These differences reflect the distinct missions of the two types of institution and their historical development. The career structures and conditions of academic staff attached to academic programmes in Schools of Arts (within university colleges) and in the Antwerp Maritime Academy are aligned with those used in universities, although they are otherwise subject to the rules governing employment in university colleges. In 2020, there were the equivalent of over 27 000 full-time staff and researcher positions in Flemish universities, of which around 13% were senior academic staff (*zelfstandig academisch personeel* or ZAP) and 45% were doctoral and post-doctoral researchers (VLIR, 2020[22]). In 2019, there were the equivalent of 7 600 full-time teaching staff employed in the 16 university colleges, along with around 3 300 FTE administrative and technical staff (Flemish Government, 2020[9]).

Certain aspects of human resources policy in the Flemish higher education system – notably staff categories, employment status, salaries and retirement – are regulated by law at system level, with different regulatory regimes for the universities and university colleges. Other aspects of human resources policy, such as workload models, appraisal or professional learning, are managed by individual higher education institutions. Collective agreements, negotiated between the unions and higher education employers, exist in Flemish higher education, but play a less significant role than in jurisdictions such as Denmark or the Netherlands.

Student-to-staff ratios are comparatively high in Flemish higher education

Comparing student-to-staff ratios in higher education between countries is challenging and it is difficult to determine optimal ratios of students to staff to ensure quality and efficient use of resources. However, the available evidence suggests that the number of full-time equivalent students for each academic and teaching staff member in Flemish higher education is higher than in most comparable jurisdictions. The number of academic and teaching staff in relation to the size of the population is also relatively low in Flanders.

Part of the explanation for this lies in the fact that post-doctoral researchers in Flemish higher education rarely engage in teaching, which is not the case in some other OECD systems, where post-docs teach more frequently and thus count towards teaching staff numbers. Another factor is the relatively high cost of employing staff in Belgium, which affects academia, like other sectors. In 2020, the OECD calculates that Belgium had the highest rate of combined employee and employer taxation and charges for single people without children earning the average wage of any OECD country (OECD, 2021[23]). Average total labour costs in Belgium for a single person without children, earning the average wage, were the fourth highest in the OECD, in purchasing power parity terms, after Germany, Austria and Switzerland.

Having a high-tax economy, with strong labour protections and funding higher education primarily from public sources are political choices with benefits and costs. In such contexts, governments implicitly accept that employment in higher education will be expensive and that the academic and teaching posts required to operate a high-quality higher education system will need to be financed almost exclusively from public funds. The balance of evidence suggests that a proportion of the additional public resources recommended above for higher education could productively be used by institutions to create additional academic posts. Such creation of costly posts would need to be carefully targeted to have greatest impact on reducing student-to-staff ratios where this is most urgently required and to create additional career opportunities for junior academics in fields with greatest demand.

Recommendation

23. With a view to a) reducing student-to-staff ratios to support teaching quality in programmes with greatest need and b) expanding research and teaching capacity in priority fields identified by higher education institutions, the Flemish Government should **ensure that a proportion of additional public funding for higher education can be used to create new staff posts**. Planned creation of additional posts and the expected effects of this can be explained by institutions in the institutional agreements also proposed above.

Creating a diverse and internationalised academic workforce remain challenges

Despite improvements, men occupy a large majority of the senior ranks in higher education institutions in the Flemish Community – particularly in the universities. The adoption, within the university sector, of the new Charter on Gender in Academia (VLIR and JA, 2019[24]) appears to be a positive step and will hopefully lead to greater changes than the previous set of Gender Actions Plans, which are reported to have had limited effect (Roos et al., 2020[25]). The new Charter does not appear to establish time frames for realising its key objectives. As such, careful monitoring of progress towards gender equality goals in the next few years – as proposed in the Charter – will be especially important as a basis for assessing whether more robust measures need to be taken to improve the gender balance in senior ranks.

The rigorous Dutch-language requirements for permanent academic staff positions make Flemish higher education comparatively unattractive – and sometimes simply inaccessible – for many international staff and researchers. Concerns to ensure that public servants have a good command of the domestic language and to protect the Dutch language within academia are entirely legitimate goals. However, it is questionable whether the current stringent and uniform requirements are needed to achieve these objectives. It is notable that other OECD jurisdictions, such as Quebec or Finland, implement measures to promote language diversity without imposing such rigorous language requirements for academic staff. Moreover, the costs and benefits of a rigorous protection of the Dutch language should be weighed against the costs and benefits of a more internationalised higher education workforce. It is clear that, at present, the Flemish Government invests considerable sums of taxpayers' money in supporting international researchers at doctoral and post-doctoral level, who are often subsequently unable to access permanent positions. There is a risk that some of the best talent is thus lost to the higher education system.

Recommendations

24. The Flemish authorities and higher education sector should **closely monitor progress in relation to the goals of the Charter on Gender in Academia** and, in parallel, assess whether an equivalent initiative is needed in the university college sector. Should progress in the university sector within three to five years prove inadequate, the sector should consider the **adoption of binding goals** for gender representativeness in senior academic positions.
25. With a view to increasing the proportion of international academic staff in Flemish higher education, the Flemish Government should **introduce greater flexibility in the formulation and application of the Dutch-language requirements** for initial appointment to permanent academic posts, drawing inspiration from the models adopted in other OECD jurisdictions, including the Netherlands and Finland.

1.6 The Flemish Community lacks an overarching higher education strategy

The Flemish higher education system, like its counterparts in other OECD jurisdictions, faces increasing calls for it to play a greater role in post-initial, continuing education as part of broader efforts to support citizens develop their skills throughout life. In parallel, higher education institutions face the shared challenge of exploiting the potential of digitalisation to enhance the quality and reach of higher education. While the higher education landscape has evolved considerably in recent years in the Flemish Community, most recently with the transfer of associate degree programmes to university colleges, Flemish higher education institutions will need to adapt their profiles and activities to a changing environment. The development of micro-credentials, complementing existing degree programmes, and the potential for further specialisation and profiling key examples of areas where further change is likely and desirable.

The review team noted that the Flemish Community lacks an overarching higher education strategy, similar to those seen in some other OECD jurisdictions, such as Finland (Ministry of Education and Culture, 2017[26]), Ireland (Department of Education and Skills, 2011[27]) and the Netherlands (Dutch Government, 2019[28]). The recent "Higher Education Advancement Fund" (*Voorsprongfonds*) (Flemish Government, 2021[29]), which guides deployment of the European Union Recovery and Resilience Funds, sets out some very brief strategic orientations. However, these priorities are not comparable with the system-wide strategies, informed by broad consultation, seen in some other leading higher education systems. Given the importance of addressing challenges relating to lifelong learning, digitalisation and refining the institutional landscape, there is a need for a systematic, collective analysis of the precise nature of these challenges and the direction the higher education system should take in responding to them. This could form the basis for a Flemish higher education strategy, encompassing these issues, but also topics related to research, such as the future organisation and scale of practice-based research support for university colleges.

Recommendation

26. Building on the consultation undertaken for the “Higher Education Advancement Fund” (*Voorsprongfonds*), the representative organisations of the higher education institutions, in close partnership with government, should **develop a clear and accessible Flemish strategy for higher education** as a single reference document, encompassing education and research. The development process for should involve the higher education sector, relevant government departments and agencies, student and staff representatives and other stakeholders. Such a strategy can provide a framework for future policy actions affecting the higher education sector and the refined institutional strategies developed as part of the new system of institutional agreements.

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Note

[1] Belgium is a federal state composed of three geographical regions and three language-based communities, with the Belgian constitution assigning each entity its own responsibilities and institutions. The Flemish Region (often referred to as Flanders) is officially Dutch-speaking, the Walloon Region (Wallonia) is officially French-speaking, with the exception of three German-speaking cantons, and the Brussels-Capital Region is officially bilingual, with French and Dutch as official languages. The language-based communities are primarily responsible for education (including higher education), culture, youth policy and certain social services. The Flemish Community is responsible for these issues in the Flemish Region and for speakers of Dutch in the officially bilingual Brussels-Capital Region. The responsibilities of the Flemish Community and the Flemish Region are, in practice, unified under the authority of the Flemish Parliament and the Flemish Government.

2 Higher education in the Flemish Community

This chapter provides an overview of the main characteristics of the higher education system in the Flemish Community of Belgium, focusing on its organisation, key aspects of its performance in education and research and the form and level of the revenue streams on which its institutions depend. This contextual overview forms the background for the more detailed discussion of institutional funding for teaching and research, funding for student aid, frameworks for human resources and strategic policy steering that follows in the later chapters of the report.

2.1 The landscape of the Flemish higher education system

Responsibility for higher education in Belgium

Belgium is a federal state composed of three geographical regions and three language-based communities, with the Belgian constitution assigning each entity its own responsibilities and institutions. The Flemish Region (often referred to as Flanders) is officially Dutch-speaking, the Walloon Region (Wallonia) is officially French-speaking, with the exception of three German-speaking cantons, and the Brussels-Capital Region is officially bilingual, with French and Dutch as official languages. The language-based communities are primarily responsible for education (including higher education), culture, youth policy and certain social services. The Flemish Community is responsible for these issues in the Flemish Region and for speakers of Dutch in the Brussels-Capital Region. The French-speaking Community holds the same responsibilities for French speakers in the Walloon Region and the Brussels-Capital Region. The German-speaking Community serves the comparatively small population of German speakers, resident in three eastern cantons of Wallonia.

As a result of these arrangements, the Brussels-Capital Region is home to both French-speaking schools and higher education institutions, falling under the responsibility of the French-speaking Community, and Dutch-speaking educational institutions, falling under the responsibility of the Flemish Community. In parallel, responsibility for economic development, research policy and innovation lies primarily with the regions. All three regions (Flanders, Wallonia and the Brussels-Capital Region) implement their own research and innovation policies, including policies that support research and development in higher education institutions. The Belgian federal government also retains some, more limited, responsibilities in the field of research (Belgium, n.d.[1]).

The responsibilities of the Flemish Community and the Flemish Region are, in practice, unified under the authority of the Flemish Parliament and the Flemish Government. Higher education institutions that fall under the responsibility of the Flemish Community, including those located in the Brussels-Capital Region, receive their core operating funding and a majority of their public funding for research and innovation from the Flemish Government. This review focuses on higher education institutions funded by the Flemish Government.

The institutional landscape of Flemish higher education

The higher education system in the Flemish Community of Belgium is characterised by a clearly defined binary structure, with higher vocational and professional educational programmes provided in university colleges (*hogescholen*) and academic programmes, from bachelor's to doctoral level, mostly provided in the Community's five research universities. A notable exception to this pattern are academic bachelor's and master's programmes in artistic fields, such as music or the visual and performing arts, which are taught in Schools of Arts integrated within, or formally classified as, university colleges. In addition, the Antwerp Maritime Academy, a publicly funded, specialised institution offering academic programmes in maritime and nautical fields, is also formally classified as a university college.

The 16 publicly funded university colleges in the Flemish Community have joined one of the five universities in an institutional "association", designed to facilitate cooperation within the system. In the academic year 2020/21, around 140 000 degree-seeking students were enrolled in university colleges and around 130 000 in universities (AHOVOKS, 2020[2]). Table 2.1 provides an overview of the grouping of universities and university colleges into associations, along with the number of degree-seeking students each institution enrolled in the academic year 2020/21.

The current institutional landscape in the Flemish Community results from a gradual process of reform over the last decade. From the academic year 2013/14, academic programmes in fields such as architecture, management and industrial sciences and technology that had historically been delivered by

university colleges were transferred to universities (a process referred to as "integration"). The academic staff and delivery of these programmes typically remained in their historical location, in premises that were also transferred from the university colleges to the universities. This has led to a proliferation of regional campuses that are part of the five universities. For example, alongside its main campus in Leuven, the KU Leuven has campuses in nine other towns and cities in Belgium. From the academic year 2019/20, short-cycle, associate degree programmes in professional fields were transferred from adult education centres to university colleges, marking another structural shift in the Flemish higher education landscape.

Table 2.1. Universities and university colleges in the Flemish Community

University	New undergraduate intake 2020-21*	Total enrolment 2020-21**	University College	New undergraduate intake 2020-21*	Total enrolment 2020-21**
KU Leuven	8 145	48 331	Odisee	2 348	10 831
			LUCA School of Arts	593	3 001
			Katholieke Hogeschool VIVES Noord	981	3 747
			Thomas More Kempen	1 892	8 622
			UC Leuven	1 829	8 957
			UC Limburg	1 157	5 107
			Thomas More Mechelen-Antwerpen	2 324	10 209
			Katholieke Hogeschool VIVES Zuid	2 561	10 890
Ghent University (UGent)	7 189	40 684	Arteveldehogeschool	3 011	13 459
			Hogeschool Gent	3 135	15 527
			HOWEST - Hogeschool West-Vlaanderen	1 802	7 376
University of Antwerp (UAntwerp)	2 926	17 502	Artesis Plantijn (AP) Hogeschool Antwerpen	3 092	14 066
			Karel De Grote Hogeschool	3 078	13 059
			Hogere Zeevaartschool Antwerpen (Antwerp Maritime Academy)***	105	491
Vrije Universiteit Brussel (VUB)	2 003	14 649	Eramushogeschool Brussel	1 192	6 051
Hasselt University (UHasselt)	800	3 799	Hogeschool PXL	2 223	9 168

Note: * The number of students who enrol for the first time for an associate degree, a professional bachelor's programme or an academic bachelor's programme (see below for discussion of programme types). ** Enrolment of degree-seeking students at associate degree level, bachelor's and master's level (excludes PhD candidates, those enrolled in some specialisation programmes and students enrolled for a limited number of credits). *** The Antwerp Maritime Academy offers specialised academic programmes, but is classified as a university college.
Source: AHOVOKS (2020[2]) *Hoger Onderwijs in Cijfers: Academiejaar 2020-2021 (Higher Education in Figures: Academic Year 2020-21)* https://onderwijs.vlaanderen.be/nl/hoger-onderwijs-in-cijfers (accessed on 25 May 2021).

Education in Belgium was historically organised along religious and socio-political lines, with educational institutions associated to one of three main societal "pillars": Catholic, Socialist and Liberal. The legacy of this historical "pillarisation" (*verzuiling*) of society is still visible in the higher education landscape, with many historically Catholic university colleges associated with the Catholic University of Leuven (the KU Leuven) and the public universities of Ghent, Antwerp and Hasselt and the liberal, Dutch-speaking Vrije Universiteit Brussel (VUB) retaining their distinct philosophical identities. Historically Catholic and liberal higher education institutions are classified for statistical purposes as government-dependent private institutions, rather than as public institutions like other universities and university colleges, although the

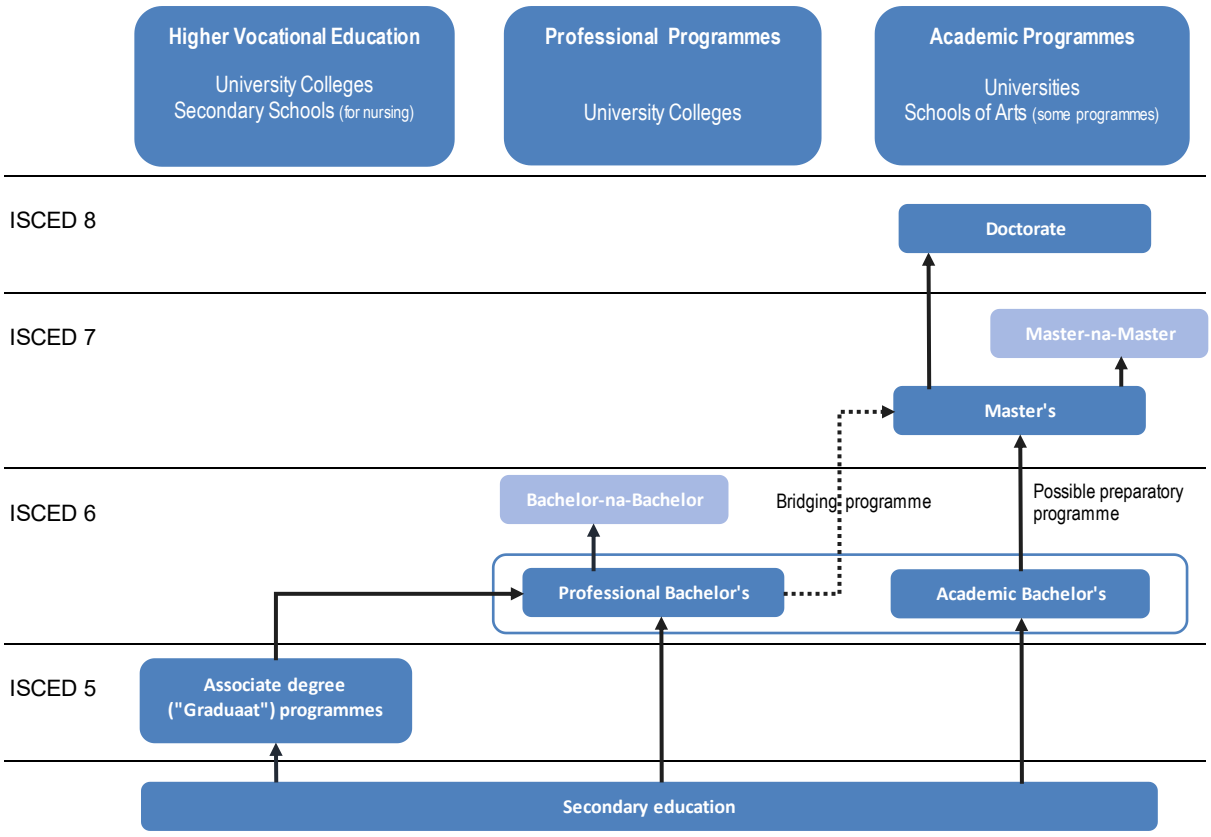
majority of government regulations and the same funding system apply across the entire publicly funded higher education sector in the Flemish Community.

Alongside the universities and university colleges, there are a small number of independent higher education institutions that fall under the regulatory authority of the Flemish Community, but which are not directly subsidised through the core public funding model for higher education. These institutions, which focus on post-initial higher education, include the Vlerick Leuven Gent Management School, the Antwerp Management School, the Institute for Tropical Medicine (*Instituut voor Tropische Geneeskunde*) in Antwerp, two theological institutions and five institutions specialised in the fine arts.

The landscape of programmes and pathways

University colleges in the Flemish Community primarily deliver professional bachelor's programmes (ISCED level 6) and, since the academic year 2019/20, higher vocational associate degree programmes (ISCED level 5), while universities deliver academic bachelor's programmes (ISCED level 6) and all programmes at master's and doctoral level (ISCED levels 7 and 8). The largest study fields for professional bachelor's degrees are business and management, healthcare (nursing), initial teacher education (ITE), industrial sciences and technology and social work. Both professional and academic bachelor's programmes have a theoretical duration of three years (180 credits), with the exception of nursing, which generally takes a minimum of four years (240 credits). Graduates from academic bachelor's programmes can progress directly to master's programmes in related fields, but must follow a preparatory programme (*voorbereidingsprogramma*) if they wish to enrol in master's programme to which their bachelor's programme does not give direct access. Owing their distinct content and focus, professional bachelor's programmes do not give direct access to study at master's level in universities. As illustrated in Figure 2.1, graduates from professional bachelor's degrees wishing to continue their studies at master's level are required to follow a (typically one-year) bridging programme (*schakelprogramma*) to prepare the transition to university.

Figure 2.1. Higher education programmes and pathways in the Flemish Community



Source: Adapted from AHOVOKS (2020[2]) *Hoger Onderwijs in Cijfers: Academiejaar 2020-2021 (Higher Education in Figures: Academic Year 2020-21)* https://onderwijs.vlaanderen.be/nl/hoger-onderwijs-in-cijfers (accessed on 25 May 2021).

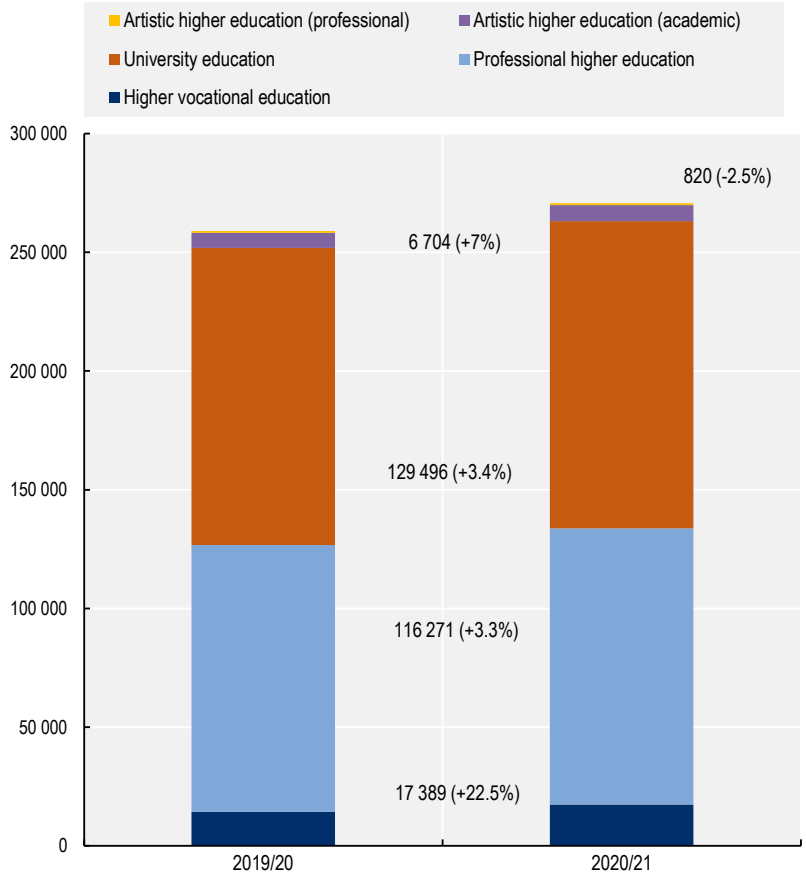
Until recently, the Flemish higher education system lacked short-cycle programmes. The transfer of most 90 or 120-credit "HBO5" programmes from adult education centres to university colleges in 2019-2020 marked a shift in this policy. An exception to the change has been basic nursing qualifications at HBO5 level, which are still run within secondary education establishments. As discussed below, enrolment in the rebranded "*Graduaat*" programmes (usually translated as "associate degree" in English) in university colleges has increased rapidly in the last two years. These programmes have a strong practical orientation, designed to prepare students for the labour market, but also allow progression to professional bachelor's degrees.

Alongside the typical model of short-cycle, bachelor's, master's and doctoral education, the Flemish higher education system is notable in proposing specific advanced specialisation programmes (generally worth 60 credits) to complement professional bachelor's and academic master's degrees. A "bachelor's after bachelor's" (*bachelor-na-bachelor – banaba*), delivered in university colleges, can be taken after a professional bachelor's or a master's degree to gain specific additional skills. "Master's after master's" (*master-na-master – manama*) function in a similar way for master's graduates. University colleges receive partial funding for each completed *banaba* programme (Flemish Government, 2013[3]), but *manama* programmes are not financed by the Flemish public funding system for higher education. As a result, both programme types have higher tuition fees for domestic students than those applied for fully funded courses, such as bachelor's and master's programmes.

Overall, 52% of students in the Flemish Community are enrolled in university colleges and 48% in universities. As illustrated in Figure 2.2, 45% of all students are enrolled in academic programmes, 43% are enrolled in professional programmes, 6% in associate degree (*Graduaat* or HBO5) programmes and 3% each in bridging programmes and in arts programmes (AHOVOKS, 2020[2]). Between the academic years 2019/20 and 2020/21, there was a substantial (+23%) increase in enrolment in associate degree programmes. This reflects the increase in capacity in these programmes in their second year of operation in university colleges, as well as increased awareness of these programmes and associated demand from students.

Figure 2.2. Enrolment in Flemish higher education by programme type

Number of unique degree-seeking students (with a "diploma contract") enrolled in Flemish higher education institutions by programme type 2019/20 and 2020/21.



Note: Data for academic programmes do not include doctoral candidates, who are classified as "scientific staff" in Flemish universities.
Source: AHOVOKS (2020[2]) *Hoger Onderwijs in Cijfers: Academiejaar 2020-2021 (Higher Education in Figures: Academic Year 2020-21)* https://onderwijs.vlaanderen.be/nl/hoger-onderwijs-in-cijfers (accessed on 25 May 2021).

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2.2 Key outputs of Flemish higher education: graduates and research

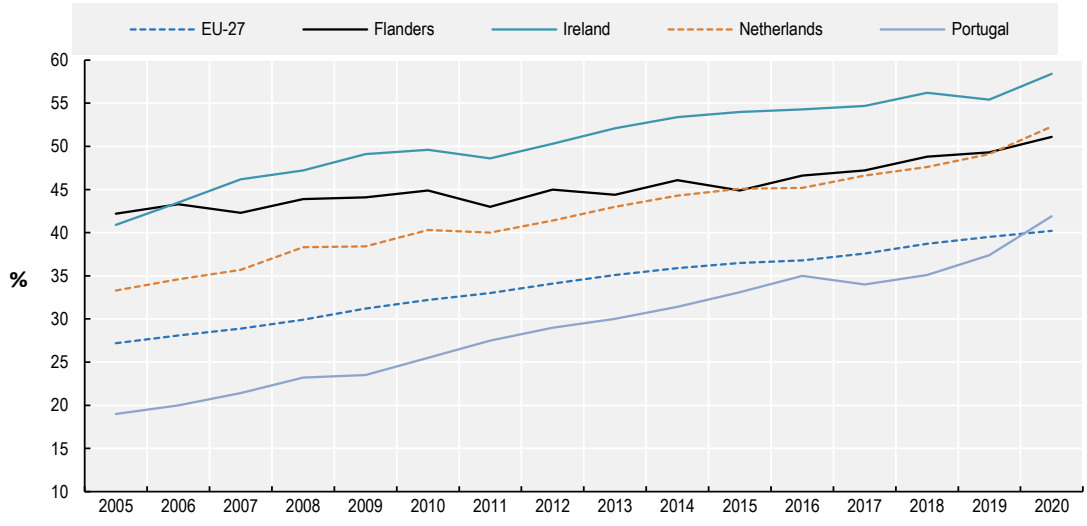
A large proportion of Flemish young people enter higher education

The Flemish higher education system has succeeded in widening access to third-level education to a comparatively large proportion of the population it serves, allowing a growing share of Flemish young people to acquire tertiary qualifications. Figure 2.3 shows the evolution of the tertiary education attainment rate – the proportion of a given population holding a tertiary education qualification – for the population aged 25 to 34 in Flanders (the Flemish Region) and the European Union as a whole from 2005 to 2020. Over this period, the tertiary education attainment rate for this age group in the Flemish Region increased by nine percentage points from 42% to 51%. In the same period, the average attainment rate in the European Union (27 countries) increased by 13 percentage points from 27% to 40.5%, while the rates in Ireland, the Netherlands and Portugal increased by 18, 19 and 23 percentage points respectively.

It is clear from Figure 2.3 that Flanders has historically had comparatively high rates of tertiary education attainment (so started the period shown from a high base), but has seen a slower rate of increase in tertiary qualification acquisition in the last 15 years than some comparable European jurisdictions. Ireland, in particular, which has the highest rate of tertiary attainment in the European Union, has seen graduate numbers increase as a result of both expansion of the higher education system and the arrival of highly skilled migrants and Irish citizens from abroad. With a very different profile, Portugal had one of the lowest rates of tertiary education attainment in the European Union in 2005. However, it has achieved a very substantial growth in qualification levels through improved secondary schooling and an expansion of the university and polytechnic sectors at tertiary level.

Figure 2.3. Tertiary education attainment among 25-34 year-olds – situating Flanders

Proportion of the resident population aged 25-34 holding a qualification at ISCED levels 5 to 8 (2005 to 2020)



Note: Data on tertiary education attainment are based on the Labour Force Survey. Data for Flanders refer to the Flemish Region only, thus excluding graduates from Flemish higher education institutions who are resident in Brussels or elsewhere in Belgium. The EU-27 refers to the 27 member states of the European Union in 2021 (excluding the United Kingdom), including for the period before 2020.
Source: Eurostat (2021[4]) *Eurostat database (Indicator edat_lfse_04),* https://ec.europa.eu/eurostat/web/main/data/database (accessed on 9 June 2021).

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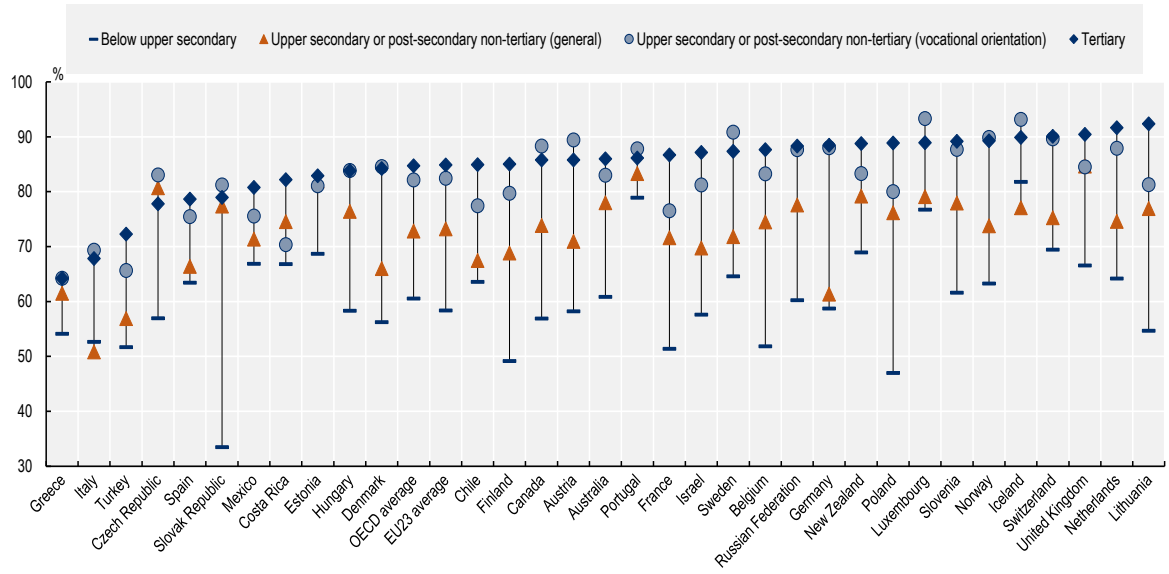
Flemish tertiary graduates have generally positive labour market outcomes

The Flemish economy, like that of much of Belgium more generally, is knowledge-intensive and graduates from Flemish higher education institutions generally have little trouble finding work in graduate occupations. Figure 2.4 shows the employment rates of individuals aged between 25 and 34 with different levels of educational attainment for OECD countries in 2019. Around 88% of tertiary graduates in Belgium were in employed in 2019, compared to 83% of graduates from upper secondary or post-secondary vocational education and training. This compares with an OECD and EU-23 average employment rates for the same age cohort of 85% for tertiary graduates and 82% for graduates from upper secondary or post-secondary vocational education. Data from 2018 show that individuals of working age (25-64 years old) in Belgium holding a bachelor's degree as their highest level of qualification earned, on average, 29% more than upper secondary and post-secondary vocational graduates, while those who held a master's degree or doctorate earned 64% more. The equivalent average-earnings premium for all 23 European Union OECD member countries was slightly higher, at 36% for bachelor's graduates and 69% for master's graduates and PhD holders (OECD, 2021, p. 93[5]).

Figure 2.4. Employment rates of young graduates

Employment rates of 25-34 year-olds, by educational attainment and programme orientation (2019)



Source: OECD (2020[6]), *Education at a Glance 2020: OECD Indicators*, adapted from Figure A3.1, https://doi.org/10.1787/69096873-en.

StatLink https://stat.link/mas7yk

A proportion of graduates from Flemish higher education institutions go on to live and work in the Brussels-Capital Region and, to a lesser extent, Wallonia. As such, graduate outcomes data for Belgium as a whole provide a relevant picture of the broader domestic labour market that Flemish graduates enter. However, Eurostat labour force data at the regional level from 2020 show that the average employment rate in the Flemish Region among young tertiary graduates (aged 20-34) having graduated within the previous one to three years was even higher than the Belgian average, at 91% – compared to 88% for Belgium as a whole (Eurostat, 2021[7]).

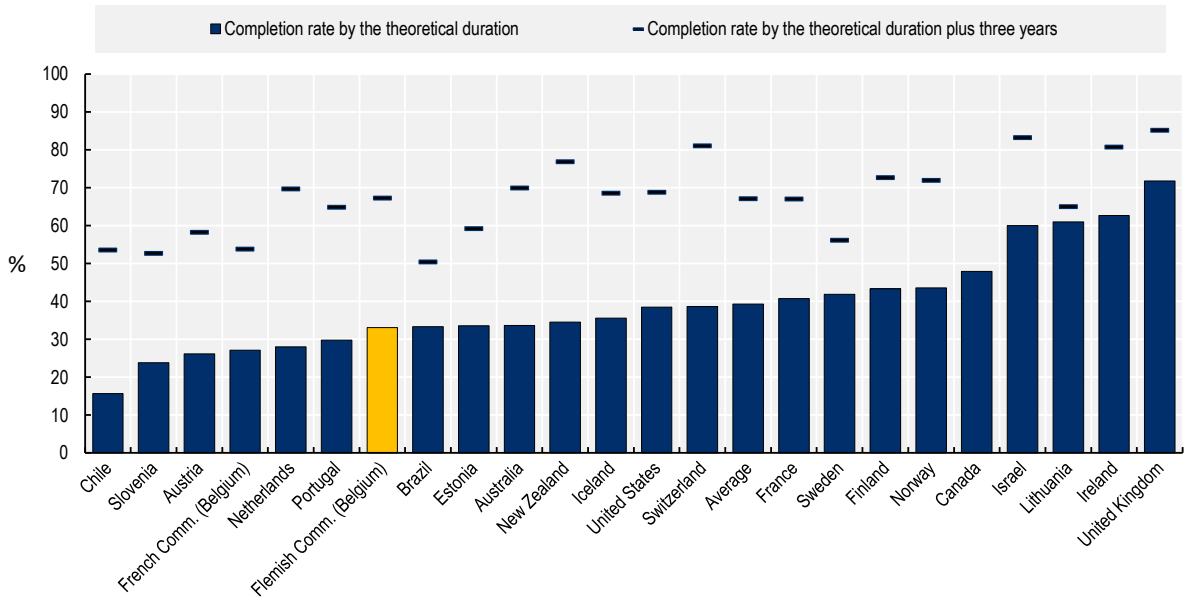
A large proportion of Flemish students take longer to graduate than the theoretical duration of their programme

As discussed later in this report, Flemish higher education operates with a system of "open access", which means that, as a rule, anyone who has successfully completed upper secondary education is free to enrol in higher education. Programmes in medicine, dentistry in the performing and visual arts are exceptions to this rule, with enrolment limits and entrance examinations in place. For the performing and visual arts, this is primarily to maintain class sizes at a viable level, while in the case of medicine and dentistry it is primarily to regulate the flow of newly qualified professionals into labour market (Flemish Government, 2013[3]). In addition, Flemish higher education allows students flexibility in the number of study credits for which they enrol. Taking into account guidelines fixed by institutions and minimum enrolment levels to qualify for student financial support (see Chapter 5), students are able to study at different intensities, meaning that they can complete fewer or more than the 60 credits required for a year's full-time study each year and extend the time needed to complete a degree.

The open access system and flexible enrolment arrangements are two of the factors that influence the rate at which students progress within, and complete, higher education in the Flemish Community. As shown in Figure 2.5, only one-third of students enrolled in bachelor's degrees graduate within the theoretical duration of three years – one of the lowest rates among OECD jurisdictions for which true-cohort progression and completion data are available. This figure rises to 67% three years after the end of the theoretical programme duration. The pattern of progression rates (time to degree) seen in Flemish higher education is also observed in other OECD higher education systems with comparatively open systems of admission and flexible enrolment, such as the Netherlands and Austria. In contrast, systems such as the United Kingdom and Ireland, which have selective admission to higher education, strict definitions of full-time and part-time study and relatively rigid study pathways achieve faster progression rates and higher completion rates.

Figure 2.5. Completion rates and time to degree

Share of full-time bachelor's students completing their degree by the theoretical duration and by the theoretical duration plus three years (2017)



Note: The chart presents data only for jurisdictions with available true cohort data.
Source: (OECD, 2019[8]) *Education at a Glance 2019: OECD Indicators*, Table B5.1 https://doi.org/10.1787/888933981001.

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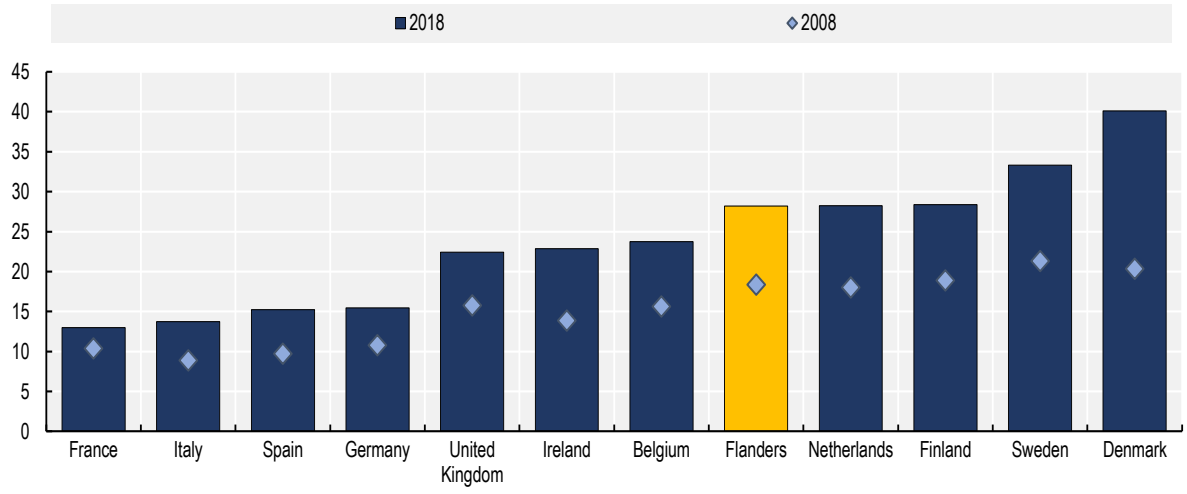
Flemish higher education institutions have greatly increased their research production in recent years

As in other OECD jurisdictions, alongside their educational mission, higher education institutions in the Flemish Community engage in research and service activities. As discussed in Chapter 4, Flemish university colleges conduct practice-oriented research as part of their broader engagement with businesses and the professional community. The five Flemish universities are heavily engaged in basic (fundamental), mission-driven and applied research (see Chapter 4 for discussion of definitions), as well as knowledge transfer and cooperation with the business and public sectors. Moreover, researchers and academic staff in Flemish universities have driven a significant increase in the number of publications produced by the Flemish research system over the last decade.

As shown in Figure 2.6, researchers in Flanders (the Flemish Region) published 28 high-quality journal articles for every 10 000 inhabitants in the region in 2018, compared to 18 a decade earlier. This increase in research productivity – of just over 50% – means that Flanders has maintained its publication rate relative to its population on a par with the level in the Netherlands and Finland and above the levels seen in other OECD jurisdictions such as the United Kingdom, Germany or France. Of major comparator jurisdictions in Europe with comparable data, only Sweden and Denmark have notably higher rates of scientific publication than Flanders. The steep increase in research output in Denmark between 2008 and 2018 (a near doubling of publications) followed a 50% real-terms increase in total higher education expenditure on research and development (HERD) in the same period (OECD, 2021[9]).

Figure 2.6. The evolution of publication output in Flanders and other OECD jurisdictions

Number of publications (journals only) per 10 000 inhabitants in 2008 and 2018



Source: ECOOM (2019[10]) *Vlaams Indicatorenboek (Flemish Indicators Book)* https://www.vlaamsindicatorenboek.be/ (accessed on 2 June 2021).

StatLink https://stat.link/9bkpx2

In 2019, Denmark and Sweden had the highest rates of higher education expenditure on research and development in the OECD, at 1% and 0.81% of GDP respectively (OECD, 2021[9]). In the same year, the average rate of HERD as a percentage of GDP in the Flemish Region (thus excluding spending on institutions located in the Brussels-Capital Region) was 0.54% of GDP (Debackere et al., 2021[11]). In contrast to Denmark and Sweden, Flanders devotes a comparatively high proportion of total research expenditure to public research institutes outside the higher education sector. Government expenditure on research and development (GOVERD) in 2019 amounted to 0.4% of GDP in the Flemish Region, compared to 0.15% in Sweden and 0.08% in Denmark (OECD, 2021[9]; Debackere et al., 2021[11]).

Flemish research output also achieves a high level of impact in the scientific community, with comparatively high citation rates. This and the merits of a further focus on increasing research productivity are discussed in Chapter 4.

2.3 Resources for higher education in the Flemish Community

This section examines the level of financial resources spent on higher education institutions in the Flemish Community in comparison to other OECD jurisdictions, before providing an overview of the sources of revenue for Flemish universities and university colleges, drawing on consolidated accounts prepared by the Flemish Government Commissioners for higher education.

Flemish higher education is predominantly publicly funded

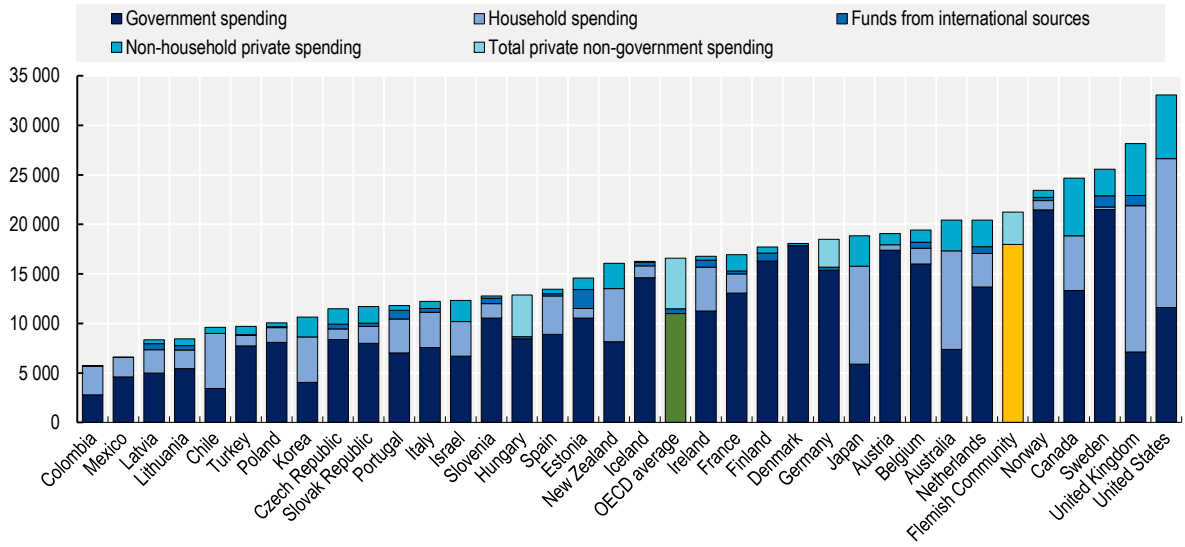
International data on expenditure on higher education institutions – converted into comparable monetary units, adjusted for purchasing power parity (PPP) and divided by the number of full-time-equivalent (FTE) students enrolled in institutions – make it possible to compare the overall volume of resources invested in different higher education systems. However, the complexity of higher education systems, each with a

different mix of institution types and profiles, is not captured in international data, which means that these data must always be interpreted with caution. Moreover, the time required to assemble accounting data from higher education institutions within each system and to transfer this information to the OECD, UNESCO and Eurostat for compilation and data cleaning means that international data on educational expenditure are always published with several years' delay. At the time of writing, the most recent comparable international data on educational expenditure are from 2017.

Figure 2.7 shows total expenditure per FTE student on higher education institutions in OECD jurisdictions, including the Flemish Community, in 2017, broken down by the source from which the expenditure comes. Although international statistical conventions classify these data as expenditure on institutions, they effectively represent the income that institutions receive from different sources. The data presented in Figure 2.7 include the total revenue of all public and private higher education institutions that provide educational programmes at ISCED levels 5 to 8 (short-cycle programmes to doctorates), including revenue spent on research and development and ancillary services (see below). For the Flemish Community, therefore, the data include all income received by universities, university colleges and the small number of independent private institutions in the system, for all their activities.

Figure 2.7. Expenditure per student on higher education institutions by source of funds

Total expenditure on public and private higher education institutions (ISCED 5-8) per FTE student in USD adjusted for purchasing power parity (PPP) and disaggregated by the source of funds (2017)



Note: Data encompass all public and private expenditure on higher education institutions. This includes all expenditure on all types of service, including research and development and ancillary services.
No disaggregation of household and non-household private expenditure is available for Spain, Germany or the Flemish Community.
Data for Luxembourg are excluded to improve the readability of the figure. Luxembourg spent an average of over USD 52 000 per FTE student on higher education institutions in 2017.
Source: OECD Education at a Glance Database https://stats.oecd.org/. Data for the Flemish Community provided by the Flemish Department of Education and Training.

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In most European systems, the vast majority of higher education institutions are public or government-dependent private institutions, which are funded in a largely uniform manner, albeit with differences between universities and non-university institutions. As such, the data shown here for these systems can

safely be assumed to be representative of the level of per-student income in “average” institutions, but they will mask differences between institutional sub-sectors. The diversity of higher education institutions in some OECD member countries is even greater than in Europe. In the United States, for example, a large private sector that exists alongside public four- and two-year institutions and the (high) average value for per-student spending masks even greater variation in per-student revenues between institutions.

Figure 2.7 shows that total spending per student on core operations, teaching, research and “ancillary services”, such as catering, housing and student support in the Flemish Community in 2017 was around the same level as in the Netherlands and Austria and 28% above the average of OECD member countries. Only the two Nordic systems of Norway and Sweden and the three predominantly English-speaking systems of Canada, the United Kingdom and the United States had higher average per-student spending. In 2017, the level of per-student spending in the Flemish Community was equivalent to 91% of the level in Norway, 86% of that in Canada, 83% of that in Sweden, 75% of the level in the United Kingdom and 64% of the level in the United States.

In 2017, the Flemish Community allocated a total of around USD 18 000 (adjusted for purchasing power parity) of public funds to higher education institutions for every FTE student enrolled in the system. In line with the guidelines for this international data collection, this sum includes the core operating grants, targeted grants and public funding for research and innovation activities. The level of public spending per student in the Flemish Community was almost exactly the same level as observed in Austria and Denmark, but below the levels seen in Norway and Sweden, which both allocated over USD 20 000 (PPP) of public funds per FTE student – over 20% more than the Flemish Community. In the Flemish Community, spending from public sources on higher education institutions accounts for 85% of total institutional revenue, compared with an average of 67% in OECD jurisdictions in 2017.

For jurisdictions with sufficiently granular data, the chart also shows spending by households (students and their families) on higher education institutions. The highest levels of household expenditure are observed in the United States, followed by the United Kingdom, Australia and Japan. In all cases, students in these countries pay comparatively high tuition fees, which generate a substantial proportion of the revenue of higher education institutions. In both the United Kingdom and Australia, students are able to access funding from public income-contingent lending systems and in practice only pay back a proportion of the loans they take out (Bolton, 2020[12]). As such, the actual level of public spending on higher education institutions for these two countries – particularly the United Kingdom – is higher than represented here.

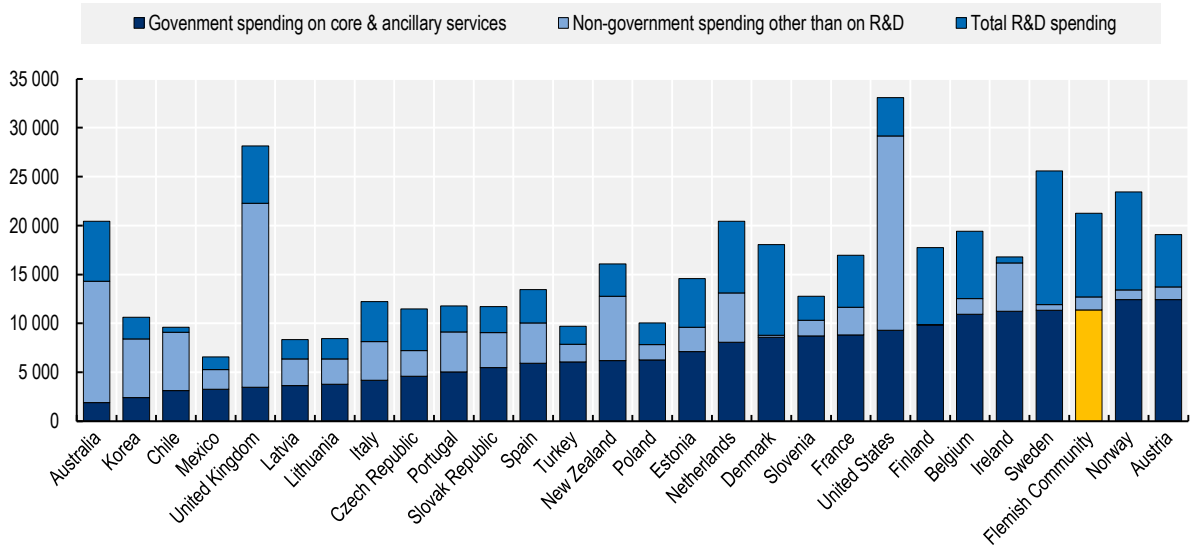
Finally, Figure 2.7 shows spending on higher education institutions from other private sources (such as businesses) and “international sources”. Spending by businesses and other non-household private bodies is typically directed to contract research and other commercial activities, such as organisation of conferences and events, undertaken by higher education institutions. However, such revenue can also include funds donated to higher education institutions through philanthropic giving. Funds from international sources are observed primarily in European Union jurisdictions and mostly stem from European Union funding programmes – most notably the research framework programmes (Horizon 2020 in 2017, now Horizon Europe) or regional development funds.

Around 40% of total spending on Flemish higher education institutions funds research

Figure 2.8 shows total spending per FTE student broken down by the destination of the funds allocated, rather than just the origin of funds, as shown in Figure 2.7. The chart highlights, firstly, the level of spending per FTE student accounted for by public funding for core and ancillary services. This corresponds to expenditure on instruction and core operating costs, such as staff salaries and buildings, that is paid for by public core grants for teaching and operations and other public subsidies. Secondly, the chart shows the level of total expenditure on research activities in higher education institutions, including spending derived from both public and private sources.

Figure 2.8. Expenditure per student on higher education institutions by destination of funds

Expenditure on all types of public and private higher education institution (ISCED 5-8) per FTE student in USD adjusted for purchasing power parity (PPP) showing government expenditure on core and ancillary services, private expenditure on core and ancillary services and total (public and private) expenditure on R&D) (2017)



Notes: No disaggregated data for R&D expenditure available for Canada, Colombia, Iceland, Israel or Japan.
Jurisdictions are ordered from left to right according to the level of government spending per student on core and ancillary services.
Source: OECD Education at a Glance Database https://stats.oecd.org/. Data for the Flemish Community provided by the Flemish Department of Education and Training.

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These figures are calculated by national authorities by assigning a proportion of total institutional expenditure to research activities, based on estimates of the proportion of staff time, infrastructure and other resources dedicated to research activity. The methodologies for assigning expenditure to research follow standard guidelines established in the OECD Frascati Manual (OECD, 2015[13]), but vary in practice between OECD jurisdictions. The ability to assign expenditure to research, rather than teaching or other activities is challenging because many academic staff undertake both activities and there is a strong inter-relationship between teaching and research in research-intensive higher education institutions. Moreover, activity-based costing systems, which allow comparatively accurate assignment of direct and indirect costs to different activities, are used systematically in only a small proportion of OECD jurisdictions.

Finally, the chart shows private (non-government) spending on core and ancillary services. The majority of this spending comes from student fees (the household private expenditure from previous Figure 2.7). In practice, higher education institutions are typically free to allocate these resources from non-public sources as they wish. In many cases, and certainly in the United States, the United Kingdom and Australia, a proportion of these funds are used for research activities, even though this is not always reflected in official statistics on research spending in higher education.

Figure 2.8 illustrates that average levels of public spending per FTE student on core operations, teaching and ancillary services in the Flemish Community are around the same level as in Sweden and Ireland. However, they are around 10% lower than in Austria and Norway, the two countries that dedicate the highest levels of public spending to instruction and core operations in the OECD. Private spending on core operations, teaching and ancillary services is comparatively low in the Flemish Community, reflecting the

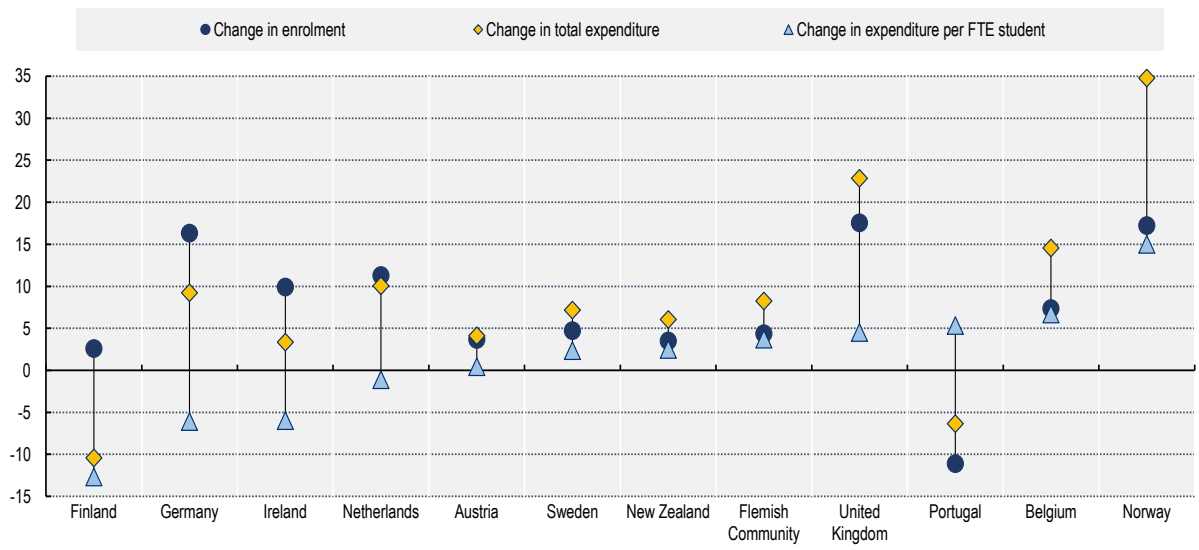
comparatively low level of tuition fees paid by students (see Chapter 5). Total expenditure formally assigned to research – from public and private sources – accounts, on average, for around 40% of total expenditure on higher education institutions in the Flemish Community, compared to 43% in Norway, 44% in Finland, 51% in Denmark and 53% in Sweden.

Total spending per student in Flemish higher education increased slightly between 2012 and 2017

Figure 2.9 shows the percentage change, between 2012 and 2017, in spending per FTE student and total spending on higher education institutions, adjusted for inflation, as well as the change in enrolment in FTE students for the Flemish Community and comparator OECD jurisdictions. Unfortunately, owing to a change in the International Standard Classification of Education (ISCED) in 2012, comparable data are not available for a longer period. The chart shows that total spending (i.e. from public and private sources) on the higher sector in the Flemish Community increased by around 8% in real terms between 2012 and 2017 and FTE enrolment increased by 4.4%, leading to a small increase in real-terms spending per student of just under 4%. This is a broadly similar pattern to that seen in Austria, Sweden and New Zealand. In the United Kingdom, both enrolment and total spending in real terms increased considerably, leading to a real-terms rise in spending per student. In Norway, total spending increased in real terms far more rapidly than enrolment, leading to a significant increase in real-terms spending per student. The opposite trend can be seen in Ireland and Germany in the same period, where per-student spending decreased in real terms. In the period, the largest reduction in total spending on higher education institutions was observed in Finland.

Figure 2.9. Change in per-student spending on higher education in OECD jurisdictions

Percentage change in enrolment in FTE students, and total expenditure and per-FTE-student expenditure on higher education institutions in USD adjusted for constant (2015) prices and constant PPP between 2012 and 2017



Note: Selected comparator countries with available data, ordered by percentage change in per-FTE-student expenditure in constant prices (2015) and constant PPP.
Source: OECD Education at a Glance Database https://stats.oecd.org/. Data for the Flemish Community provided by the Flemish Department of Education and Training.

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The income of universities in the Flemish Community

Table 2.2 provides an overview of the income of the five Flemish universities in the financial year 2019, based on the annual report for universities of the Government Commissioners (*Regeringscommissarissen*) for higher education (Flemish Government, 2020[14]). In 2019, the total revenue of the Flemish university sector was just over EUR 2.5 billion. By convention, the core income of universities is categorised into four income streams:

- *Stream 1*, accounting for 43% of total income, corresponds to the core public operating grant (*werkingsmiddelen*) for teaching, basic research functions and general operations. The bulk of this is allocated to institutions through the formula discussed in the next chapter, although separate budget lines exist for capital investment and on-campus student services (*Studentenvoorzieningen* - STUVO). The latter is discussed in Chapter 5.
- *Stream 2*, accounting for an average of 15% of total income on average, is public funding for basic research. The two largest components of this funding stream are:
  - The Special Research Funds (*Bijzonder Onderzoeksfonds* – BOF), which is allocated directly to universities using a specific, separate formula and allocated internally to projects *within* universities.
  - Competitive funding for doctorates, post docs and research projects from the Research Foundation – Flanders (FWO) – which is the Flemish counterpart to research councils that exist in many other OECD countries.
- *Stream 3*, accounting for around 17% of total income, is funding for strategic basic research, applied research, innovation and knowledge transfer from Flemish and international sources. Funds from the EU research Framework Programmes are classified as part of stream 3.
- *Stream 4*, accounting for around 10% of total income, is income for commercial contract research and service activities performance on behalf of private and public clients.

The remainder of university income comes from tuition fees, which accounts for less than 10% of total income, and a range of additional sources, ranging from rental income to gifts, bequests and donations.

Table 2.2. The income of Flemish universities

Funding stream	Type of funding	Objective	Main* components of the funding	Income in 2019 in EUR (% of total income)
Stream 1	Government funding for operating costs	To cover expenditure (staff and operating costs) related to instruction, research and service, investment in infrastructure and student services	Operating grant for instruction and research in core envelope (*werkingsmiddelen*) Capital investment funds Complementary Research Funds** Grants for student services (*STUVO*)	**1 104 677 626 (43%)** STUVO: 24 929 478 (1%)
Stream 2	Government funding for fundamental research	To support and stimulate fundamental research in Flemish universities	Special Research Funds (BOF) Research Foundation - Flanders (FWO) Interuniversity Attraction Poles (IUAP)	**374 818 015 (15%)**
Stream 3	Government funding for applied research	To support and stimulate strategic basic and applied research, innovation and knowledge transfer in Flemish universities	Flemish Community funding for strategic basic and applied research, innovation and knowledge transfer (Industrial Research Funds IOF, etc.) International research funding (Notably EU framework programmes) Federal funding for applied research	**444 782 277 (17%)**
Stream 4	Contract research and service provision	Commercial activities of universities to complement funding from public subsidies	Contract research with private sector Contract research with government funding Other service provision "Valorisation" of research results	**255 171 453 (10%)**
Other income directly from instruction, research and service		Primarily private income from households (fees and turnover from campus services)	Income from tuition fees Rental income and income from student services Other income, including withheld taxes	**261 116 010 (10%)**
Gifts, donations and bequests				**22 343 619 (1%)**
Other income			Includes all income not attributed to previous categories	**114 296 419 (4%)**
Total income				**2 521 205 613 (100%)**

Notes: *Only the most important components are named: additional smaller mechanisms may exist alongside these.
** Complementary Research Funds are additional payments for research activities associated with academic programmes transferred from university colleges to universities and in Schools of Arts, which are provided as part of Stream 1 funding.
Source: Flemish Government (2020[14]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel II - Universiteiten (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part II – Universities)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 12 January 2021).

The income of university colleges in the Flemish Community

In 2019, the total revenue of the 16 Flemish university colleges amounted to just over EUR 1 billion. Around 75% of this total income came from public grants, although the composition differs from the pattern seen in universities. The majority of income (65%) came in the form of the public funding grant for teaching and operations, which is awarded using the same basic formula used to fund teaching and operation in universities. As discussed in the next chapter, unlike universities, university colleges do not receive funds for research through the core allocation formula. Additional – albeit comparatively limited – funds are allocated specifically for practice-oriented research and the development of research capacity in university colleges. The Schools of Arts, which have academic programmes, receive additional "Complementary Research Funds" (*Aanvullende onderzoeksmiddelen*), but remain located within, or with the status of,

university colleges. Around 9% of total income comes from tuition fees and the remainder from a range of campus services and commercial activities.

Table 2.3. The income of Flemish university colleges

Type of funding	Objective	Main components	Income in 2019 in EUR (% of total income)
1. Government funding for operating costs (*werkingsmiddelen)*	To cover expenditure (staff and operating costs) related to instruction, service and applied research, investment in infrastructure and student services	Total	**737 852 178 (72%)**
		Operating grant from main formula	*668 054 581 (65%)*
		Grants for Practice-oriented Research (PWO)	*29 320 705 (3%)*
		Supplementary Research Funds for Schools of Arts	*16 829 710 (1.6%)*
		Grants for incorporation of associate degrees (Graduaatopleidingen) from adult education centres	*13 214 612 (1.3%)*
		Other supplementary grants	*10 432 570 (1%)*
2. Tuition fees	Household payments to supplement core operating grant		**95 367 298 (9%)**
3. Income from instructional activities and sales	Income from market-oriented training activities		**36 261 822 (3.5%)**
4. Grant for student services (STUVO)	To fund student services on campus		**30 116 734 (3%)**
5. Contract research and service provision	Commercial activities to complement funding from public subsidies		**38 352 907 (4%)**
6. Income from other sources in turnover			**925 858 (0.1%)**
7. Other income outside turnover		Change in stock of goods Membership fees, donations, bequests and subsidies Other income	**85 001 626 (8.3%)**
Total income			**1 023 877 945 (100%)**

Notes: *Only the most important components are named: additional smaller mechanisms may exist alongside these.
Source: Flemish Government (2020[15]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel I - Hogescholen (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part I – University Colleges)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 16 January 2021).

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3 The operating grant for Flemish higher education institutions

This chapter examines the mechanisms in place in the Flemish Community to provide publicly supported higher education institutions with core funding to pay for teaching, basic operating costs and, in the case of universities, a foundational level of activity in research. The core public operating grant (*werkingsmiddelen*) is the single most important source of funding for Flemish higher education institutions, accounting for around 40% of total income in the university sector and 65% of total income in university colleges. This chapter provides an overview of the allocation model for the operating grant, reviews different design characteristics of the model in comparison to models in other OECD jurisdictions and in light of findings from the interviews and analysis conducted for this review and, finally, outlines policy issues and recommendations for the future of the model.

3.1 The public operating grant for Flemish higher education institutions

A funding model to support an accessible and flexible higher education system

In recent decades, Flemish higher education policy has been guided by the principles that higher education should be widely accessible for the population, entail low costs for students seeking initial qualifications at each level of the system, and be flexible enough to allow students to study at different paces, depending on their personal circumstances (Flemish Government, 2015[1]).

In common with the systems in Austria or the Netherlands, higher education in the Flemish Community is largely "open access". As a rule, admission to initial programmes (at associate degree [*graduaat*] or bachelor's level) requires students to have successfully completed upper secondary education or to have an equivalent level of competencies formally recognised, but it is not dependent on obtaining specific grades in school examinations or passing entrance examinations at system or institutional levels. Exceptions to this rule exist for medicine, dentistry and programmes in the performing and visual arts in the Schools of Arts. In these cases, entrance examinations, with pre-established minimum scores, are used to select students for admission. In all cases, to access master's programmes, students require an academic bachelor's degree in a relevant field or to have successfully passed a relevant bridging or preparatory programme.

The Government is committed to contributing financially to the cost of an initial bachelor's degree and master's degree for every eligible individual who meets the relevant requirements for admission to higher education (Flemish Government, 2015[1]). The Government also provides institutional funding for students taking initial associate degrees, which, as discussed, have recently been integrated into the higher education system. In principle, the Government's funding commitment covers eligible individuals, of any age, who do not already have an associate, bachelor's or master's degree and can meet the requirements to enter or re-enter the system. The comparatively low tuition fees in the Flemish Community at undergraduate and post-graduate level (see Chapter 5) mean that higher education institutions are dependent on public funding to finance almost the entire cost of initial education programmes for eligible students.

All programmes in the Flemish higher education system are structured into courses, each worth a specific number of credit units (*studiepunten*). Students have considerable flexibility in the number of credits for which they enrol each year. The vast majority of students enrol in a "diploma contract", with the explicit intention of obtaining a degree. However, it is also possible to enrol in higher education on a "credit contract", under which students take only a specific number of course credits, without the intention of acquiring a full qualification. Students enrolled in a "diploma contract" must take specified modules that will permit them to obtain a qualification in their chosen field, and institutions provide guidance on recommended annual credit loads. However, within limits, the credit-based system makes it possible for students to combine programme learning components more flexibly than in systems with rigidly defined study programmes, and to retake modules or switch programmes during their higher education career with relative ease.

To support this flexible system of higher learning, the Flemish Government has designed its institutional and student-funding models with an explicit link between payments and the number of credit units for which students are enrolled or that they successfully obtain. As part of this system, all eligible individuals receive a "learning credit" account with credits that they can "spend" on higher education (see Box 3.1).

Box 3.1. Learning credit (*Leerkrediet*)

The 2008 reform of the funding model for higher education institutions introduced a system of "learning credit" from the academic year 2008/09 onwards. As a general rule, to enrol in a higher education programme, students need a number of credits in their learning credit account equivalent to the number of credits for which they wish to enrol. At the start of their higher education career, all students receive 140 credits. When a student enrols in a higher education programme, the number of credits corresponding to number of credits for which they are enrolled is deducted from the student's account (for example, 60 credits for a full-time associate, bachelor's or master's degree, or fewer credits if they wish to study with a lower intensity).

For students enrolled with the intention of obtaining a degree (those with "diploma contracts"), the number of credits that a student successfully passes is re-credited to the account at the end of each semester. The first 60 credits that a student passes in their higher education career are counted double (meaning students receive 120 credits back in their account for the first 60 credits they pass). For students enrolled for credits outside a degree programme (on "credit contracts"), the system works in the same way, but there is no doubling of the first 60 credits obtained. If a student progresses successfully through an initial bachelor degree in the typical theoretical duration of three years, they will have 200 credits in their learning credit account at the end of the programme, having "won back" all the credits they spent and gained an additional 60 credits as a bonus.

When a student successfully obtains an initial master's degree, 140 credits are deducted from the learning credit account. This means that a student who completes both a bachelor's degree and a master's degree without having to retake credits will finish with a learning credit balance of 60 credits. This credit balance can be used towards future learning. On completion of their initial studies, all students have their learning credit account re-credited up to 60 credits, at a rate of 10 credits per year after their initial graduation.

Source: Flemish Government (2013[2]) *Codex Hoger Onderwijs (Higher Education Code), Articles II.203-206*, https://data-onderwijs.vlaanderen.be/edulex/document/14650 (accessed on 28 May 2021); Flemish Government (2021[3]) *Leerkrediet ("Learning Credit" webpage)* https://onderwijs.vlaanderen.be/nl/leerkrediet (accessed on 28 May 2021).

The objective of the learning credit system, when it was introduced as part of a wider reform of the funding model in 2008, was to maintain and strengthen flexible conditions for accessing higher education, while also placing a limit on the length of time that an individual student could remain in higher education at taxpayers' expense (Flemish Government, 2015[1]). The flexibility to enrol for different numbers of credits can facilitate part-time study for those in work, with caring responsibilities or with disabilities, for example. The 60-credit bonus that students receive when they successfully pass their first 60 credits in a degree programme was designed to reward success, but also allow students who fail a proportion of courses in their initial period in higher education to maintain sufficient credits to continue their studies (Flemish Government, 2015[1]). A student who fails 60 credits before completing a bachelor's programme successfully, for example, will finish their bachelor's with a learning credit balance of 140, which is enough to allow them to complete a full master's degree with margin for failure. Ultimately, however, students who repeatedly fail to pass credits will use up their learning credit, creating – in principle – an incentive for careful study choice and commitment to studying.

In practice, the system of learning credit has been criticised for providing limited incentives for students to progress swiftly through higher education. In particular, there is no maximum limit on the time students can take to pass their first 60 credits, and thus qualify for the 60-credit bonus, and the overall level of credit allows students to spend several years in more than the theoretical programme duration (three years for bachelor's and two years for master's) to acquire their qualifications. As discussed later in this chapter, the

weak incentives for intensive study in the early stages of students' higher education careers, as well as slowing progression, may be a factor in the comparatively high rates of drop-out from Flemish higher education, noted in the previous chapter (Werkgroep "Studievoortgangbewaking", 2014[4]).

A student-driven funding model using input and output parameters

The Flemish Community uses a formula funding model, introduced from the academic year 2008-9, to allocate the available budget envelope for public core funding to higher education institutions to individual universities and university colleges. The formula is used to calculate the size of the grant each institution receives each year, with payments to institutions made as a lump sum, which they are then free to re-allocate internally. As explained in more detail below, the size of the lump sum grant for each institution is driven to a large extent by the number of credits for which students enrol in each institution and the number of credits that they successfully pass, using data from previous years as a calculation basis. As such, there is a strong relationship between (past) student numbers and the funding institutions receive.

Eligibility of students for funding

In student-driven funding systems, such as that in the Flemish Community, the concept of "fundable student" is important. In the Flemish system, students must fulfil three main criteria to be considered "fundable" and thus for their data to be included in the formula calculation and for their host institution to receive public funding for their education:

1. They must be enrolled in a *programme or course* that is eligible for funding. This includes accredited associate degree, bachelor's and master's programmes, bridging and preparatory programmes, as well as individual courses that are part of these programmes, but in which students can enrol outside a formal degree programme on a "credit contract". The formula funding system provides a full rate of funding per credit for students who enrol for the first time in a particular programme type (e.g. their first associate or bachelor's degree). The funding model also provides funding at half the full rate for students who take specialisation programmes in university colleges (*bachelor-na-bachelor*), although no institutional funding is provided for post-master's specialisation programmes in universities (*master-na-master*). In the latter cases, students pay fees that are higher than the statutory level mandated for fully funded programmes.
2. Students must hold the *nationality* of a country of the European Economic Area (EEA) or otherwise fall into limited number of other categories, primarily related to refugee or migrant status. Flemish legislation allows higher education institutions to receive public funding for a limited number of foreign students who do not meet these nationality or status criteria, provided they do not account for more than 2% of the total credits for which students are enrolled in the institution or generate a call for more than 2% of the variable component of the public teaching grants (see below).
3. Students must have *sufficient learning credits* in their learning credit account (see Box 3.1) to enrol for their selected number of credits. This means, for example, that a student needs at least 30 credits in the learning credit account to enrol full-time for a semester of an associate, bachelor's or a master's programme.

Calculation of the lump sum grants to institutions – base and variable components

In the Flemish funding model, the majority of the lump sum payment for each higher education institution results from the addition of amounts calculated in four distinct calculation components of the model for programmes in university colleges and four main calculation components for universities. University colleges receive a core operating grant that results from the addition of a base component (*sokkel*) and a variable component for professional programmes (SOWprof and VOWprof) and a base component and a variable component for academic programmes in Schools of Arts (SOWhko and VOWhko). The base

components for each institution are calculated using the average number of credits for which students are enrolled for the five-year period t-7/t-6 to t-2/t-2, where "t" is the budget year in question. The base components are designed to guarantee (additional) stability in funding. The amount of funding to be distributed through each base component is established with reference to an initial value fixed in the Flemish Higher Education Code (Flemish Government, 2013[2]) and is adjusted over time for inflation. In 2020, the base components accounted for 10.5% of grant funding for professional programmes and 5.4% of funding for academic programmes in Schools of Arts (see Table 3.1).

The variable components of the teaching grant to university colleges (VOWprof and VOWhko) are calculated with reference to the average values for input and output variables observed in each institution in the same five-year reference period and examined in more detail below. The budget envelope for the variable components is established each year as part of annual Flemish Government budgetary processes, with reference to a provisional budget trajectory established in the Higher Education Code and a statutory adjustment mechanism to take into account changes in enrolment (the "click system"), also discussed below.

The level of the core grant for each university also results from a base and variable component for teaching (SOWun + VOWun), calculated using broadly the same method as for programmes in university colleges, and a based and variable component for research (SOZun + VOZun). Since 2017, programmes in medicine receive a fixed proportion of the variable component of the total university teaching grant (based on their historical share of this budget), with each of the four universities that offer such programmes receiving a share of this fixed proportion of the total budget based on the number of medical degrees they award. In 2020, the base component for teaching accounted for 7.6% of the total teaching grant for universities.

The research element of the operating grant implicitly recognises the strong inter-relationship between teaching and research in research-intensive universities. The level of the specific funding envelope for the research grant to universities is established in relation to the level of teaching grant for universities (SOWun + VOWun) in a ratio of 55% (teaching) to 45% (research). Funding allocated through the teaching grant for academic programmes that transferred from university colleges to universities in 2013 is not taken into account in the calculation of this ratio. The specific budget envelope for research is then distributed to among the five universities using a base component for research (SOZun), calculated based on publication and PhD award numbers, and a variable component for research (VOZun) that takes account of past graduations, bibliometric indicators and indicators related to academic staff. In 2020, the base component accounted for 30% of the value of the research grant to universities (Flemish Government, 2013[2]).

The Flemish funding model is distributive. It uses the calculation components and the parameters discussed in more detail below to distribute the available budget envelope for each of the components among higher education institutions, but does not attach pre-established monetary values to the units (such as credits) that are used in the calculations. The reference value for the budget envelope for each funding component is established in the Higher Education Code, although the Government has latitude to deviate from the amounts established. The result is that the value of each unit of funding distributed by the formula fluctuates over time, depending on the total number of units in the calculation and the total budget envelope available. If the total number of units in the calculation rises – as the number of enrolled credits or credits obtained in the system increases, for example – and the budget envelope remains stable or does not rise in proportion to the increase in units, the value of each unit distributed will fall.

The parameters used in the allocation calculations

Table 3.1 provides an overview of the specific parameters used to distribute core funding allocated to institutions through the base and variable funding components outlined above. In 2020, almost EUR 1.7 billion was allocated to Flemish higher education institutions through the core model. In addition, as discussed below, various top-up funds were allocated to institutions using funding outside the core

funding envelope distributed through the model. For both the teaching and research elements of the grants, the allocation model uses average values for each parameter in the model for the five academic years t-7/t-6 to t-3/t-2, where "t" is the current budgetary year. As such, all funding allocations to institutions are based on the past activity levels and outputs of each higher education institution.

Table 3.1. Parameters for allocating teaching and research grants to higher education institutions

	Base funding teaching (SOWprof, SOWhko, SOWun)	Variable funding teaching (VOWprof, VOWhko, VOWun)	Base funding research (SOZun)	Variable funding research (VOZun)
Beneficiary institutions	Universities and University colleges		Universities only	
Proportion fixed & variable funding	9%	91%	30%	70%
Total budget (2020)	EUR 115.5 million	EUR 1 189 million	EUR 115.5 million	EUR 270 million
Professional programmes	*EUR 65 million*	*EUR 553.6 million*		
Artistic programmes	*EUR 4.2 million*	*EUR 73.4 million*		
Academic programmes	*EUR 46.3 million*	*EUR 562 million*		
Allocation criteria	Enrolled credits (*opgenomen studiepunten*)	- Enrolled credits (*opgenomen studiepunten*) up to the first 60 credits passed by a student in a programme - Credits passed in degree programmes (*verworven studiepunten*) from the 61st credit passed by a student in a programme - Credits passed under credit contracts - Number of degrees (diplomas) awarded	- PhDs awarded - Number of publications	- number of academic bachelor's and master's awarded in association - number of PhDs awarded - number of publications and citations calculated for BOF key appointments of academic staff who: - gained a PhD from another institution - have work experience at another institution - are women
Weightings	Degressive scale: - First 450 000 credits (7 500 FTE students) weighted 3 - 450 000-900 000 credits weighted 2 - 900 000-1 800 000 credits weighted 1 (universities only) - Over 1 800 000 weighted 0	Weighting of 1.5 for students in receipt of study grant, students with disabilities and for students combining work and study Subject-field weightings (between 1 and 1.6 for professional programmes and 1 and 4.2 for academic programmes) For degrees awarded: - initial professional bachelor's and initial master's = 30 points - initial academic bachelor's = 18 points	Degressive scale for PhDs awarded: - First 65 weighted 3 - 66-500 = weighted 2 - 500+ = weighted 0 Degressive scale for publications: - Under 600 = weighted 3 - 601-3000 = weighted 2 - 3001-10 000 = weighted 1 - Over10 000 = weighted 0	The bachelor's and master's degrees awarded are weighted by the subject-field weightings used in variable education component Doctorates are weighted using a specific subject-field weighting system (Higher Education Code Article III.19, §1/1)

Note: SOW = base component for teaching (*onderwijs*); SOZ = base component for research (*onderzoek*); VOW = variable component for teaching; VOZ = variable component for research. Prof = professional programmes; Hko = academic programmes in Schools of Arts (*Hoger Kunstopleidingen*); Un = academic programmes in universities.

Source: Based on Flemish Government (2013[2]) *Codex Hoger Onderwijs (Higher Education Code)*, https://data-onderwijs.vlaanderen.be/edulex/document/14650 (accessed on 28 May 2021). Budget data for 2020 supplied by the Flemish Department of Education and Training.

The calculation of the grant allocation for each institution by the Flemish Agency for Higher Education, Adult Education and Qualifications and Student Grants (AHOVOKS) proceeds – in simplified terms – in four conceptual steps:

1. To calculate the base components for teaching, the number of credits for which eligible students are enrolled in each institution is first adjusted using a degressive weighting system, with higher multipliers for the first tranches of credits (see Table 3.1). This system is designed to provide a proportionally larger base component to smaller institutions. The budget for the three base components for teaching (SOWprof, SOWhko and SOWun), the level of which is fixed with reference to the reference amount in the Higher Education Code, is then divided by the adjusted (weighted) total numbers of credits in each of the programme sectors. Each institution then receives their share of the base component depending on their weighted share of enrolled credits.
2. The same procedure is applied for the base component of the research grant for universities, using the combined total of PhD awards and publications produced in the system (also weighted for each university using a sliding scale of multipliers) as the denominator to divide the budget for the base component (also EUR 115 million in 2020).

   The divided budget is then allocated among the universities based on their share of weighted PhD awards and publications. The three variable components of the teaching grant are distributed using a system of "funding points". A funding point is initially generated for each credit for which an eligible students is enrolled, until that student has passed 60 credits in a single degree programme (an input parameter). From the 61st credit a student passes in a single degree programme, a funding point is generated for each credit the student passes. Funding points are also generated for each credit passed by an eligible student under a "credit contract" and for each degree awarded (the latter three variables are output parameters).

   Enrolled credits, credits passed in a degree programme and degrees awarded are multiplied by a factor of 1.5 when they concern students in receipt of a public grant (see Chapter 5), with disabilities, or who combine work and study (*werkstudenten*). In addition, these same three parameters are adjusted using different multipliers depending on the field of study in which each student is enrolled. As in other OECD jurisdictions, these subject-area weightings (*onderwijsbelastingseenheiden* – OBE) are designed to reflect cost differences between fields of study and range from 1 to 1.6 for professional programmes and 1 to 4.2 for academic programmes.
3. Finally, each degree awarded is weighted with a multiplier of 30 for initial professional bachelor's and master's degrees and 18 for academic bachelor's degrees. The budget envelopes for the three variable components of the teaching grant are established in the Higher Education Code, although, as noted, the actual value of the envelope is also influenced by budgetary decisions. These amounts are divided by the sum of the funding points resulting for each component from the multiplications above and then distributed to each institution based on their share of the funding points.
4. The level of total funding for the base and variable components of the research grant for universities (SOZun + VOZun) is established with reference to the base and variable components of the teaching grant for universities (SOWun + SOZun) to respect a ratio of 45% (research) to 55% (teaching). Funding allocated through the teaching grant for academic programmes that transferred from university colleges to universities in 2013 are not taken into account in the calculation of this ratio. The budget available (VOZun) is then divided by the weighted number of academic bachelor's and master's degree awards in each association of university and university colleges; the number of weighted PhD awards; the number of publications and citations calculated for the allocation of the Special Research Funds (BOF – see Chapter 4); and the number of individuals appointed as academic staff for the first time who are female or have moved institutions. The budget for the variable component of the research grant is then distributed to the five universities based on their share of the funding points generated.

To ensure that funding higher education institutions have adequate scale to ensure quality education, the Higher Education Code stipulates that institutions must enrol students in at least 90 000 credits (equivalent to 1 500 full-time students) to be eligible for base funding. This rule does not apply to the specialised Antwerp Maritime Academy. In practice, as discussed in Chapter 2, all higher education institutions in the Flemish Community have enrolment levels well above this minimum threshold.

Adapting the model to account for system restructuring

The current allocation model reflects changes made, from the financial year 2014 onwards, to take account of the transfer of non-arts-related academic programmes from the university colleges to universities. The funding for these programmes is now allocated to universities through the base and variable funding components for academic programmes (SOWun and VOWun). When they were located in university colleges, the programmes were funded using the subject-area weightings for professional programmes (between 1 and 1.6) rather than those used for academic programmes in universities (1 or 2 for the fields in question). To harmonise the system, the weightings for the programmes in question are gradually being adjusted in a process running to 2023. In that year, weightings for architecture or biotechnology will have been moved from 1.46 to 2, while those for languages and management will move from above 1 to 1.

Whereas research capacity associated with most academic programmes in universities is supported through the research element of the core grant to universities, a separate earmarked funding stream outside the model exists to support the development of research in the academic programmes transferred from the university colleges in the form of the "complementary research funds" (*aanvullende onderzoeksmiddelen*). For reason, as noted above, the proportion of the teaching element of the core grant for universities allocated for "integrated" programmes is not taken into account in the calculation of the size of the research grant using the ration of 55% (teaching) to 45% (research). The complementary research funds are allocated to the "integrated" programmes based on the number of enrolled credits (50%) and the number of degrees awarded (50%) in the programmes concerned. The level of funding for these programmes is allocated based on a planned budgetary "growth path" running to 2023, at which point the intention it to mainstream the funding of research capacity in the programmes into the main funding model.

A more recent change has been the transfer of short-cycle study programmes (*graduaatopleidingen*) and specific teacher education programmes from adult education centres to university colleges from the academic year 2019/20. These programmes have initially been funded by the transfer of the relevant budget from the adult education centres to the university colleges. In addition, for the years 2020 to 2022, university colleges have been guaranteed additional funds for each additional *graduaat* student that they enrol through a temporary open-ended funding envelope. The effects of this system will be monitored in 2023 and 2024 and, from 2025, the funding of the *graduaat* programmes will be fully integrated into the main funding model for the operating grant. From then on, a specific variable component (VOWhbo) will be added to the system, with funding awarded using the same system of funding points as for the other programmes types, albeit initially using a different reference period for the calculation of the parameters (Flemish Parliament, 2018[5]).

A mechanism exists to adjust the budget envelope in line with student numbers

The legislation establishing the current funding model for Flemish higher education created a mechanism (the "click system" – *kliksysteem*) to adjust the level of the budget envelope available for the variable components of the teaching grants to institutions when student numbers in the system increase or decrease. When the number of credits for which students are enrolled increases or decreases by more than 2% in professional, artistic or academic programmes, based on a historical five-year, rolling average, legislation requires the Government to make a corresponding adjustment to the budget envelope for the variable component funding the programme type(s) in question. This system is designed to create a "semi-open" budget envelope, with an automatic, statutory increase (or decrease) in the variable component for

any of the programme types when substantial changes in enrolment occur (see Box 3.2). Enrolment in professional and academic programmes has grown steadily since the introduction of the current funding model in 2008/09, triggering regular "clicks" to increase the budget envelope for the variable funding component for these programmes. However, in the years 2015 and 2016, budget pressures meant that the Flemish Government did not implement the budget increases that would have occurred as a result of "clicks" in those years.

Box 3.2. The "click" system (*kliksysteem*)

When the total number of enrolled credits in any of the three sectors of education (professionally oriented programmes, arts programmes and academic programmes) increases or decreases by at least 2%, the corresponding level of variable education funding for that sector is adjusted up or down by 2% in the following budget year. This creates a direct, albeit limited, link between enrolment and available funds.

The calculation takes into account the number of credits for degree-seeking bachelor's and master's students in their initial bachelor's or master's degree are enrolled in each sector of education. The system uses the average number of credits taken in each of the three sectors of education over a period of five academic years. For any given year t, the number of enrolled credits is calculated using the average number of credits taken in t-7/t-6 to t-3/t-2 and then compared to the previous five-year period.

An initial number of enrolled credits for the variable component of education funding was established as the baseline or reference point when the click system was introduced. Over time, as clicks occurred because of changes in the number of credits taken that exceed 2%, the base line has been adjusted and the new level average number of credits taken becomes the reference point against which change is measured and future "clicks" triggered.

Source: Flemish Government (2013[2]) *Codex Hoger Onderwijs (Higher Education Code), Article III.6*, https://data-onderwijs.vlaanderen.be/edulex/document/14650 (accessed on 28 May 2021).

Additional funding streams complement core funding from the model

In addition to the main lump sum payment stemming from the allocation model and additional funds for associate degree programmes discussed above, higher education institutions in the Flemish Community receive additional earmarked funds, which have been created over time. The most significant of these additional funding programmes are:

- The "Complementary Research Funds" (*Aanvullende onderzoeksmiddelen*) already mentioned, which are directed to academic programmes in fields such as architecture that were transferred from university colleges to the universities in 2013 and academic programmes in the Schools of Arts (within university colleges). The purpose of these funds is to support the development of research capacity in these programmes.
- Funds for practice-oriented scientific research in university colleges (*Praktijkgericht wetenschappelijk onderzoek* – PWO). This funding, equating to around 3% of the total income of university colleges, is discussed in Chapter 4.
- Funding for student services (*studentenvoorzieningen* or *STUVO*) – the STUVO funds – which support a range of activities, ranging from student housing to guidance and counselling, are discussed in Chapter 5.
- Funds for capital investment, which are paid to higher education institutions to support investment in buildings and equipment. These funds are additional to the core operating grant to institutions,

which, as a block grant, can also be used to fund capital investments, and are theoretically designed to cover investment that support education, research and student services. In 2019, funds for capital investment amounted to around EUR 33 million for the university sector and EUR 23 million for the university college sector – in both cases around 3% of total income from public core funding.

- Specific funds for initial teacher education (ITE) programmes (*Specifieke Lerarenopleidingen* – SLO) in both university colleges and universities. These funds, which are intended to support investment in the quality of teaching education, will mostly be mainstreamed into the core funding model from 2022 onwards (Flemish Government, 2013, pp. III.32-33[2]).
- Additional funds for Brussels-based Flemish institutions. These funds provide extra funding to ensure a diverse provision of a range of Dutch-speaking higher education programmes in Brussels and contribute to higher unit costs of providing certain programmes in Brussels that may not attain the same economies of scale as equivalent programmes in Flanders.

3.2 How the Flemish operating funding model compares and performs

Institutional funding models are designed with a range of objectives in mind

As a basis for reviewing the design and operation of the Flemish funding model for higher education institutions, it is helpful to consider some key criteria that are widely acknowledged to characterise effective funding models. Governments and higher education institutions look for core funding models for higher education institutions to fulfil a range of objectives. Although the degree of emphasis on each criterion may vary between actors in higher education and between countries, the most common objectives for institutional funding models are as follows:

1. To provide a volume of resources to each higher education provider that is *aligned to the real levels of activity, effort and legitimate costs* incurred by the institution to ensure adequate levels of quality. Although recognition of effort is important, funding systems that link payments exclusively to activity, such as student enrolment or attainment parameters, can be sensitive to short-term changes in student numbers and risk creating undesirable instability in annual funding levels for institutions with high fixed costs. If not carefully designed and resourced, such systems can also create perverse incentives for institutions to maximise activity (e.g. student enrolment) at the expense of quality or other relevant objectives (Advisory Committee on Funding Higher Education and Research, 2019[6]). Establishing the level of legitimate costs in higher education – and thus the appropriate level of government subsidies to higher education providers – is also challenging (Deloitte Access Economics, 2016[7]). For these reasons, OECD member countries typically combine some form of activity-related resource allocation with other mechanisms to limit funding instability over time and – in some cases – to promote efficiency and quality.
2. To allocate resources among institutions in a way that is *fair, transparent and predictable* to support institutional budget planning and ensure the credibility of the system. Maintaining a link between funding and activity, in line with the first objective, and ensuring equitable treatment of similar institutions are key conditions for the fairness of a funding system. It is also important that institutions and their staff understand how budget allocations are calculated and can predict, based on reasonable assumptions, the broad level of funding they will receive in future years to facilitate institutional planning (OECD, 2008[8]).
3. To support *broad access to higher education* to help achieve socially desirable skills development and social inclusion goals. Access to higher education depends on a wide range of factors, including the performance of the secondary education system, generic entry requirements and pathways, socio-cultural factors and financial support to students. The design of the funding model

for higher education institutions, along with rules relating to admission and student numbers, can also influence institutions' ability and willingness to enrol (more) students from a wide range of backgrounds.

4. To promote *efficient delivery of good results* from education, research and service activities. The results achieved by higher education institutions, including the quality of knowledge and skills acquisition by students, the quality of research output and the efficiency with which students are able to acquire valuable qualifications, are also influenced by a complex range of factors. A level of funding adequate to permit institutions to hire well-qualified, motivated staff and to provide good quality learning and research environments is among the most crucial of these factors. However, human and financial resources can be deployed with different levels of efficiency to achieve the same results. In recent years, governments in many OECD jurisdictions have increasingly sought to use institutional funding models to promote quality and efficiency goals, notably by tying funding to specific outputs and outcomes achieved (de Boer et al., 2015[9]; Ortagus et al., 2020[10]; Zacharewicz et al., 2019[11]).
5. To permit institutions to invest in *strategic development for the future*. Like all organisations, higher education institutions need to plan for the future, update their activities and facilities and to shape and react to the changing world around them. Renewal and adaptation require resources in addition to those needed to maintain day-to-day operations. Higher education funding models in some OECD jurisdictions make explicit allocations to support strategic development, either through provisions in core, block grant funding to institutions or through funding targeted through specific programmes.

Combining findings from interviews conducted for this review and comparative analysis of OECD higher education funding models, the following sections examine how the Flemish funding model performs and compares to other OECD systems in relation to the five broad objectives above. These sections analyse, in turn:

- How the Flemish model of public funding to higher education institutions compares to approaches in other OECD jurisdictions in terms of the structure of core funding appropriations to institutions and the weight of these appropriations in overall institutional revenue.
- The ways public authorities establish the public budget envelope for higher education institutions, the extent to which budget setting and funding models relate funding levels to activity and ensure fairness, transparency and predictability and how the Flemish funding model compares in this respect.
- The extent to which the Flemish and other OECD higher education funding models explicitly seek to promote widened access, quality and efficiency, and available evidence on the effectiveness of such approaches – in the Flemish Community and internationally.
- The mechanisms governments use to support capital investment and future-oriented strategies in higher education institutions and how these compare to the approach adopted in the Flemish Community.

The focus here is on core funding models for operations and instruction in higher education institutions. The specific systems for funding research through institutional funding allocations are examined in more depth in Chapter 4.

In common with similar European systems, higher education institutions in the Flemish Community rely heavily on public funding for their core operations

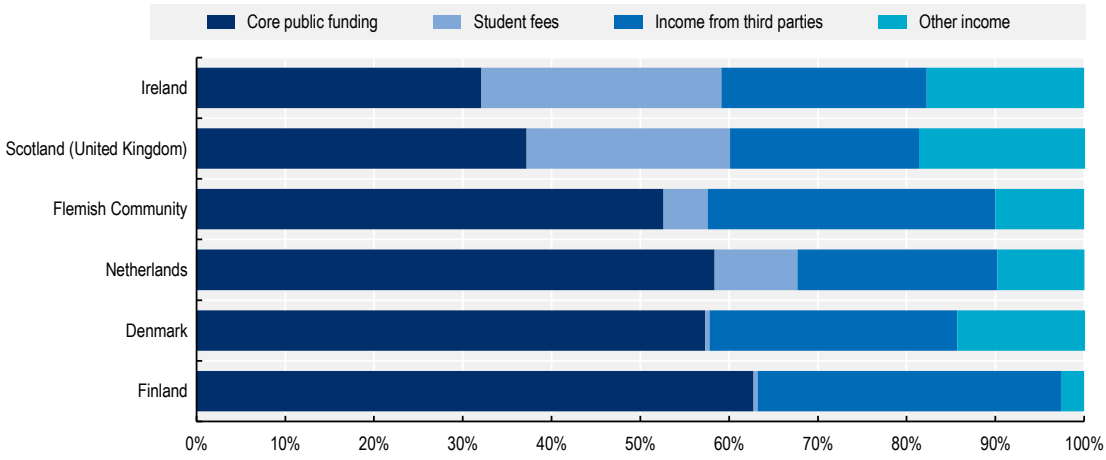
In common with a majority of OECD higher education systems, the Flemish Community uses a supplier-oriented mechanism to fund higher education institutions, whereby it provides an operating grant directly to each university and university college. Also in common with its counterparts in other OECD jurisdictions, the Flemish Government regulates the level of tuition fees that institutions can charge, thus influencing the level of resources that institutions can generate from student demand.

In a limited number of OECD jurisdictions, such as England, Australia or Lithuania, governments have explicitly sought to introduce demand-oriented mechanisms for funding higher education institutions, through which public resources are directed to students, who then "spend" these resources on the higher education provider where they enrol. In Lithuania, students meeting merit-based eligibility criteria for state-funded study places are allocated an educational voucher, which they can use to enrol in an accredited higher education institution. England and Australia operate "quasi-voucher" systems, whereby the government provides publicly backed income-contingent loans, which students can use to pay regulated tuition fees in the institution where they enrol. Systems such as Scotland and Ireland operate mixed systems, where public authorities provide direct grants to institutions and pay fees for eligible students that enrol in a given institution.

Figure 3.1 illustrates the average proportion of revenue in universities from core public funding grants, student fees, third parties and other sources in the Flemish Community and five comparable OECD jurisdictions. On average, in 2019, 52% of Flemish universities' revenue came from institutional grants from government, delivered through the operating grant (around 40% of total funding) and earmarked core funding for research (around 10% of total income from the Special Research Funds (BOF) and the Industrial Research Funds (IOF)). In Ireland and Scotland, where regulated student fees for domestic students and institutional fees for international students are substantially higher than in the other jurisdictions shown, core public funding accounts for only 34% and 39% of average university revenue. In contrast, core public funding accounts for between 57% and 63% of the total revenue of the university sectors in Denmark, the Netherlands and Finland.

Figure 3.1. The structure of university revenue in six OECD jurisdictions

Average proportion of income from different funding sources in universities



Notes: Data are taken from consolidated accounts for university sector in each system, for most recent year for which these were available at the time of writing.

For the Flemish Community, "core public funding" includes operating grant, the Special Research Funds (BOF) and the Industrial Research Funds (IOF). "Income from third parties" includes external funding for research and service, including income from public funders of competitive research – See Figure 4.1 in Chapter 4 for a further breakdown.

The number of universities per jurisdiction is: Ireland: 7; Scotland: 19; Flemish Community: 5; Netherlands: 14; Denmark: 7; Finland: 13.

Sources: Adapted from: HEA (2019[12]) *Financial Trend Analysis – Universities and IoTs 2007-2017*, Higher Education Authority; Audit Scotland (2019[13]), *Finances of Scottish universities*, https://www.audit-scotland.gov.uk/report/finances-of-scottish-universities (accessed on 20 April 2021); Flemish Government (2020[14]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel II – Universiteiten (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part II – Universities)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 12 January 2021); DUO (2021[15]) *WO Gegevensboek 2015-2019 (Universities Databook 2015-2019)*, https://www.duo.nl/open_onderwijsdata/databestanden/onderwijs-algemeen/financiele-cijfers/gegevensboeken.jsp (accessed on 24 May 2021); Rathenau Instituut (2020[16]) *Ontwikkeling derde geldstroom en beïnvloeding van wetenschappelijk onderzoek (Development of the third funding stream and its influence on scientific research)*, https://www.rathenau.nl/nl/vitale-kennisecosystemen/ontwikkeling-derde-geldstroom-en-beinvloeding-van-wetenschappelijk (accessed on 21 April 2021); Universities Denmark (2021[17]) *Det Statistiske Beredskab - Danske Universiteter (University Statistics – Universities Denmark)*, https://dkuni.dk/tal-og-fakta/beredskab/ (accessed on 24 May 2021); Vipunen (2021[18]) *University income statement, Vipunen – Finnish Education Statistics*, https://vipunen.fi/fi-fi/yliopisto/Sivut/Talous.aspx (accessed on 24 May 2021).

StatLink https://stat.link/px51k6

Nearly all OECD jurisdictions that provide public funding directly to higher education institutions do so through block grants, allocated as a lump sum that institutions can use largely freely to pay for different expenses. While block grants in many countries are paid to institutions as a single lump sum, they frequently result – as in the Flemish Community – from the addition of different funding components, each with its own calculation basis. The most frequently used funding components are:

- Basic grants for teaching and institutional operations;
- Specific grants for research – particularly for research-intensive institutions;
- Specific grants for capital investment.

In addition, some funding systems make allocations to institutions specifically for strategic investments or policy priorities, such as enhancing quality. This is the case in Finland and the Netherlands, for example.

Table 3.2 presents an overview of the structure of core public funding to both universities and professionally oriented higher education institutions in six comparator jurisdictions, including the Flemish Community as in Figure 3.1. This illustrates that universities of applied science depend to a greater extent on public funds than universities, with core public funding accounting for between 62% (Ireland) and 79% (Finland) of average institutional revenue in non-university sectors. This compares with a proportion of 72% for university colleges in the Flemish Community. Universities in all six jurisdictions receive a research grant as part of their core funding, with the exception of Ireland, where a basic level of funding for research is integrated into the (comparatively small) teaching grant. This is not the case for universities of applied science, which receive no dedicated research grant in Denmark and Ireland and comparatively modest levels of research funding in the Flemish Community and the Netherlands. Only in Finland, does public direct-grant revenue for research make up a substantial portion of average institutional revenue in the university-of-applied-science sector.

Table 3.2. Structure of core public funding for higher education institutions

Proportion of core public funding allocated through different funding streams (most recent year for which data were available: 2017-2020)

	Flemish Community(1) (2019)		Denmark (2019)		Finland(2) (2020)		Ireland(3) (2017)		Netherlands(4) (2019)		Scotland (2017)
	Uni.	UC	Uni.	UAS	Uni.	UAS	Uni.	UAS	Uni.	UAS	Uni.
Teaching grant	43%	94%	46%	94.5%	42%	76%	39%	64%	55%	97.4%	50%
Fees paid by public authorities	-	-	-	-	-	-	51%	32%	-	-	22%
Research grant	54%	4%	54%	5.5%	34%	19%	-	-	42%	2.6%	19%
Capital grant	2%	3%	-	-	-	-	10%	4%	-	-	4%
Grant for strategic development	-	-	-	-	24%	5%	-	-	3%	-	4%
Average proportion of institutional revenue from core public funding	**52%**	**72%**	**57%**	**77%**	**63%**	**79%**	**34%**	**62%**	**58%**	**72%**	**39%**

Notes: Uni. = universities; UAS = universities of applied science; UC = university colleges. (1) In the Flemish Community, the research grant for universities includes operating grant for research, the Special Research Funds (BOF) and the Industrial Research Funds (IOF); (2) In Finland, a proportion of the budget envelope for the grant for strategic development is reserved targeted funding awarded through national programmes (3) In Ireland, 10% of the envelope for the teaching grant is awarded between universities based on research metrics. Funds for strategic development are awarded through competitive processes, not as part of the core grant. (4) Data for the Netherlands show proportions of government block grant (*Rijksbijdragen*) for teaching, research (universities), "design and development" (UAS) and "quality funds" linked to institutional quality agreements (strategic development).

Sources: Flemish Government (2020[14]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel II - Universiteiten (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part II – Universities)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 12 January 2021); Flemish Government (2020[19]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel I - Hogescholen (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part I – University Colleges)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 16 January 2021); Universities Denmark (2021[17]) *Det Statistiske Beredskab - Danske Universiteter (University Statistics – Universities Denmark)*, https://dkuni.dk/tal-og-fakta/beredskab/ (accessed on 24 May 2021); UFM (2021[20]) *Regnskab — Uddannelses- og Forskningsministeriet (Financial Accounting - Ministry of Education and Research)* https://ufm.dk/uddannelse/videregaende-uddannelse/professionshojskoler/okonomi/regnskab (accessed on 24 May 2021); Danish Government (2020[21]) *Finanslov for finansåret 2021 – 19 Uddannelses- og Forskningsministeriet (Finance law for the financial year 2021 - 19 Ministry of Education and Research),* https://fm.dk/media/18423/fl21a19.pdf (accessed on 28 June 2021); Vipunen (2021[18]) *University income statement*, https://vipunen.fi/fi-fi/yliopisto/Sivut/Talous.aspx (accessed on 24 May 2021); Vipunen (2021[22]) *University of Applied Sciences Income Statement*, https://vipunen.fi/fi-fi/amk/Sivut/Talous.aspx (accessed on 24 May 2021); HEA (2019[12]) *Financial Trend Analysis - Universities and IoTs 2007-2017*, Higher Education Authority; Vereniging Hogescholen (2020[23]) *Financiën (Finances)*, https://www.vereniginghogescholen.nl/kennisbank/feiten-en-cijfers/artikelen/financien (accessed on 24 May 2021); DUO (2021[15]) *WO Gegevensboek 2015-2019 (Universities Databook 2015-2019)*, https://www.duo.nl/open_onderwijsdata/databestanden/onderwijs-algemeen/financiele-cijfers/gegevensboeken.jsp (accessed on 24 May 2021); Audit Scotland (2019[13]), *Finances of Scottish universities*, https://www.audit-scotland.gov.uk/report/finances-of-scottish-universities (accessed on 20 April 2021).

Other notable features in the structure of the core public funding models used in these six, relatively similar, systems include a) the practice in both Ireland and Scotland for public authorities to pay fees to institutions for eligible students and b) the existence of dedicated capital grants in three of the six systems. The system of fee payment in Ireland and Scotland reflects the underlying principle in both systems that students are theoretically expected to pay (substantial) fees, but that governments have made a political choice to pay fees on behalf of domestic students.

The tradition of allocating separate grants for capital investment, adopted in the Flemish Community, Ireland and Scotland, is also widespread in other OECD jurisdictions, although the allocation method varies. The OECD Higher Education Policy Survey in 2020 found that, like the Flemish Community and Scotland, the French Community of Belgium, England and Canada allocate recurrent capital grants to higher education institutions (Golden, Troy and Weko, 2021[24]). This is also standard practice for public institutions in many US states (OECD, 2020[25]). In contrast, Ireland's system of capital grants is based on a competitive application process through which institutions respond to specific calls run by the Higher Education Authority, with similar systems in place in the Czech Republic, Hungary and Poland. Other systems with dedicated capital funding streams, including France, Italy and Norway, award funds based on prioritisation of projects by public authorities. In Denmark, Finland, the Netherlands (see Table 3.2), but also in Austria, Portugal, New Zealand and Sweden, public authorities do not provide dedicated capital funding and higher education institutions are expected to pay for capital investment from core operating grants and/or their own funds (Golden, Troy and Weko, 2021[24]).

Finland, the Netherlands and Scotland allocate a proportion of institutional core funding explicitly for future-oriented investments and strategic development. This issue is discussed in the section below that deals with strategic investment funds.

The Flemish funding model links budgets to enrolment, but per-student funding depends on multiple variables and has declined in real terms in many institutions

Higher education funding models in many OECD jurisdictions seek to create a link between the activity levels and costs of higher education providers and the amount of public funding they receive. In doing this, governments typically aim to establish funding models that are fair and transparent and that create a sufficient degree of predictability for higher education institutions. In practice, the extent to which funding models can effectively link funding to costs and guarantee predictability for institutions is affected both by a) the technical design of the allocation mechanism and b) the level of budget envelope that is available to be allocated.

Designing funding models to account for activity and costs in institutions

An increasing number of OECD member countries have moved from higher education funding approaches based purely on historical allocations, to formula-based models, using objective parameters to allocate funding to institutions. Of the 27 OECD jurisdictions responding to the 2020 OECD Higher Education Policy Survey, 24 use formulas to allocate at least a proportion of public funding to higher education institutions (Golden, Troy and Weko, 2021[24]).

Along with the Flemish Community, Ireland, the Czech Republic, Hungary, Lithuania, New Zealand, the Slovak Republic and Sweden allocate core public funding to institutions through exclusively formula-based systems. Others systems, including Austria, Denmark, the Netherlands and Norway combine formulas with varying levels of (non-activity-related) "fixed" or historical funding. In Denmark, for example, the level of the basic grant to institutions (*grundtilskud*), which accounts for 25% of the teaching grant to institutions, is based on historical allocations, as is the "fixed base" (*vaste voet*) in the Dutch allocation model for the core government grant (*rijksbijdragen*). Finland is notable for combining a largely formula-based system with funding negotiations for the strategic component of its core funding model (see below).

Nearly all formula systems reported by OECD jurisdictions in the Higher Education Policy Survey use student-related metrics to distribute funds to higher education institutions. Of the 24 systems using formulas, 18 use enrolment metrics (an input parameter) as one of the allocation drivers and a further five, including Finland and Denmark, use exclusively output-based student metrics, such a credits passed and degrees awarded, in their allocation formulas. Among the jurisdictions using enrolment metrics, some, like the Flemish Community, combine both input and output indicators. In all cases, these student-related parameters, which are generally the main driver in formulas, create a link between student-related activity

in institutions – and the staff and non-staff costs this generates - and the amount of funding each institution receives.

As discussed below, this does not mean all (or many) systems create a one-to-one link between each enrolled student, each credit enrolled or passed, or each student graduating and a fixed unit of funding. Some funding allocation formulas do use fixed unit prices, usually involving the payment of a fixed sum for each student or graduate in a particular field. Such systems are additive, in that total budget to be allocated is the sum of the unit prices. Many other funding systems – including the one in use in the Flemish Community – use "distributive" formulas, which take the available budget envelope as the starting point and then divide this budget by the number of units that need to be funded. In this case, the value of each unit depends on the number of units and the size of the budget envelope available.

Using subject-area weightings to account for cost differentials between programmes

Whether they use additive or distributive formulas, many governments further seek to strengthen the relationship between the notional costs incurred by institutions and the funding allocations they make through incorporating subject-area weightings into their formulas. These provide higher weightings (multipliers) for students enrolled, passing exams or graduating in fields with comparatively high costs, such as laboratory subjects or medicine. Such weightings, while rarely based on detailed assessments of full costs, seek to compensate – at least partially – for differences between fields of study in terms of student-to-staff ratios, technical support staff (such as laboratory assistants) and the costs of infrastructure and equipment (notably laboratories for science subjects).

The Flemish Community and the Netherlands use separate sets of subject-area weightings (referred to in the Flemish context as *onderwijsbelastingseenheiden* or OBE) for the university and non-university sectors, whereas other systems with binary structures, such as Ireland, Denmark and Finland use a single set of weightings across the whole higher education system. The weightings used in the different jurisdictions are broadly similar, although the range between the lowest and highest subject-area weightings is comparatively small in the Danish system and the difference between the weightings used for universities and university colleges in the Flemish Community is greater than the difference between weightings for universities and universities of applied science in the Netherlands.

Table 3.3 summarises the subject-area weightings used for bachelor's programmes in the Flemish Community and five comparable OECD jurisdictions. As each jurisdiction uses different subject-area classifications and groupings, the table is designed to provide a broad overview and cannot capture all details of the different systems.

Table 3.3. Subject-area weightings in selected OECD jurisdictions

Weighting factors for *undergraduate* students used in funding allocation formula in selected OECD jurisdictions

	Flemish Community		Netherlands[2]		Scotland (United Kingdom)	Ireland	Denmark (Universities)	Finland[3]
	Univ.	UC	Univ.	UAS				
Non-laboratory subjects (e.g. humanities and social sciences)	1	1	1	1	1	1	1	1
Subjects with fieldwork (e.g. computer science, education)	2	1.1 to 1.6	1.5	1.28	1.2 / 1.4	1.3	1.4	1
Laboratory subjects (e.g. engineering, physical sciences)	2	1.6	1.5	1.5	1.6 / 1.8	1.7	2.1	1.75
Clinical medicine	3.9[1]	-	3	-	3.2	2.3	2.1	3
Veterinary studies / dentistry	3.9[1]	-	3	-	3.2	4	2.1	3

Notes: 1. Since 2017, university programmes in medicine in the Flemish Community have been funded through a ring-fenced budget with variable component of the teaching grant; the weighting for veterinary studies is 3;
2. The Dutch funding formula applies these weightings to enrolments and degrees awarded for the instruction component of public funding to institutions and to degrees awarded for the allocation of 15% of basic funding to universities for research;
3: Finland introduced multipliers from 2021, with the same multipliers used for universities and universities of applied science.

The Flemish funding model allocates higher weights for master's programmes than for bachelor's programmes, notably applying a weight of three for master's in science subjects, compared to two for bachelor's, and 4 and 4.2 for master's degrees in medicine and dentistry, respectively, compared to 3.9 for bachelor's programmes in these fields. The system also applies a number of exceptions to the general rules regarding subject-area weights, for programmes in music and the performing arts, for example, which receive additional funding to reflect their high costs (Flemish Government, 2013[2]). When non-artistic academic programmes were transferred from universities to university colleges in 2013, a progressive system was put in place to align the subject-area weightings for these programme with the weightings used in the university sector by the year 2023. In practice, this has meant increasing the weightings for subjects such as architecture from 1.46 to 2 and reducing the weightings for languages and management from 1.18 and 1.09 to 1. Finally, when associate degree programmes were integrated into the university college sector in 2019, a separate funding mechanism was introduced for these programmes, using subject-area weightings of 1, 1.15 and 1.50 (Flemish Government, 2020[26]). In time, funding for these programmes – and the weightings used for them – will be mainstreamed in the core funding model.

In a recent review of the subject-area weightings and internal funding allocation models used in Flemish universities, de Boer and Jongbloed (2018[27]) found that, while the weightings were unlikely to reflect real cost differences between study fields, the current system was considered fair within the university sector. The same study noted that the Flemish higher education system lacks a standardised activity-based costing (ABC) system that would make it possible to gain a clearer picture of the cost of provision in different fields, as has been achieved in some other OECD systems (KPMG LLP, 2019[28]; Deloitte Access Economics, 2016[7]; Hemelt et al., 2018[29]). As many of the cost studies undertaken in higher education in other countries note, it is questionable whether it is possible to obtain a fully accurate picture of the "true" or "reasonable" costs of providing programmes in a particular field. Not only do costs depend on institutional characteristics and contexts, but a circularity also exists between the revenue higher institutions receive and the amount they are able to spend on particular activities – and thus the cost of these activities in practice (Hemelt et al., 2018[29]). Even if it does not permit judgements to be made about

the reasonableness of costs, the transparency created by cost accounting systems nevertheless helps both institutions and governments to understand the observed cost of activities.

Although the legitimate costs of delivering programmes in a given field in a given context are hard to determine entirely objectively, significant misalignment between subject-area weightings and programme costs can be problematic. As noted by institutional representatives in interviews conducted for this review, there has been a growing concern in university colleges about the lack of alignment between the weighting factors used in the Flemish funding model and the real costs of professional programmes. Assumptions about student-to-staff ratios, technical support and facilities that informed the original level of weightings no longer hold, as educational practice has evolved. In particular, there have been concerns about the relative under-funding of programmes in computing and professionally oriented science, technology, engineering and maths (STEM) subjects.

The Flemish Government implemented marginal increases in the subject-area weightings for computing and STEM subjects in university colleges in 2021, acknowledging the need to strengthen advanced education in these fields in the face of growing labour market demand (Flemish Government, 2020[26]). An alternative to this proposal, raised by some interviewees during the review would be to use only one or two subject-area weightings for all types of professional programme, rather than the graduated range of weightings and distinct weightings for associate and bachelor's degrees used now, with the expectation that institutions will re-allocate funds internally – as many university colleges already do – to address cost differences between fields of study.

Providing additional institutional funding for students from particular target groups

A final main way in which governments can seek, through the technical design of their funding models, to compensate higher education institutions for effort and costs associated with delivering education is to provide additional funds for students from particular target groups, who may require additional support. As noted earlier, the Flemish funding model provides an additional weighting factor of 0.5 for students who are in receipt of a government grant (and thus who come from low-income families – see Chapter 5), students with disabilities and students who combine study and work. The intention behind this weighting was both to incentivise institutions to recruit students from these groups – as part of a widening access agenda – and to compensate institutions for the additional costs associated with providing adequate support for these student groups (Flemish Government, 2015[1]).

In practice, as in all distributive funding models, the actual level of additional funding received by institutions for students from target groups depends on the level of the total budget envelope distributed by the model. Hypothetically, if the number of target group students increases equally in all institutions, but the budget envelope for higher education remains constant, no institutions will receive additional funds. If some institutions recruit more additional target group students than others (i.e. increase their share of students from target groups), the model can lead to a (minor) redistribution of the available budget in favour of those institutions with more target group students.

The 2020 OECD Higher Education Policy Survey found that, of the 27 jurisdictions responding, only Ireland, Italy, New Zealand and the Slovak Republic used weightings in their funding models for students from priority groups (Golden, Troy and Weko, 2021[24]). The Irish system, in particular, is similar to the system used in the Flemish Community in that it provides an addition 0.33 weighting for each student from a low-income background; first-time, mature student entrants; students with disabilities and Irish Travellers. As in the Flemish system, the student characteristic multiplier is applied to the weighted subject-related factors, meaning that institutions receive a higher level of additional funding for priority-group students in high-cost subjects. New Zealand uses a multiplier in its formula to direct additional funding for Māori and Pasifika learners, while the system in the Slovak Republic provides funding for students with a Roma background. Other systems, such as those in many Canadian provinces and Norway, direct additional core funding to institutions in regions (such as northern Canada and northern Norway) with large minority

populations, but do not use student-related weightings to provide additional funds for students from these groups.

There is a clear logic to providing additional funding to higher education institutions to support the education of students from priority groups for widening access. Previous work by the OECD has highlighted the influence of appropriate guidance and support on progression and completion rates among these groups and the costs associated with providing such support (OECD, 2020[30]). The system in the Flemish Community appears to be supported by institutions and stakeholders. However, as the additional funds generated by the student-related weighting are not earmarked for specific purposes, but incorporated into the operating grant that is provided to institutions as a lump sum, it is not possible to trace with any certainty the ways these additional funds are used and the influence of this funding on institutional behaviour (Flemish Government, 2015[1]). It is nevertheless certain that institutions that enrol large numbers of students in receipt of a government grant (notably in the university college sector) do benefit significantly in financial terms from this mechanism.

Setting the budget envelope and maintaining unit funding rates – differing approaches

While the student-related parameters and cost-related weightings in funding formulas create mechanisms that have the potential to compensate higher education institutions in a proportional and predictable way for effort and costs incurred, the extent to which formula allocation models can achieve this in practice depends on the amount of funding available to allocate.

As noted earlier, some OECD jurisdictions "construct" their budget envelopes for higher education institutions through an essentially bottom-up process. This involves adding together pre-established, fixed units of funding (such as a fixed price per full-time student in a given field, for example) and potential bonus payments, along with allowances for other predictable components of the institutional grant, such as fixed, historical payments. In such systems, governments nearly always calculate the maximum number of students that they will fund in a given year and impose or negotiate enrolment limits for individual institutions or the sector as a whole. As summarised in Table 3.4, this is the system used in Denmark, Australia and Scotland. In systems such as Lithuania – and many other central European countries – the government agrees to fund a specific number of state-funded study places, with students selected on merit (students who do not qualify must pay fees).

Table 3.4. Features of funding models that influence calculation of the budget envelope

	Type of budget envelope	Open or capped recruitment of students	Formula allocation method		
			Fixed unit cost per student	Mixed (unit costs + distributive)	Purely distributive
Ireland	Closed	Open (1)		X	
Denmark	Closed	Capped in certain fields	X(2)		
Flemish Community	Semi-open	Capped in certain fields			X
Finland	Closed	Effectively capped			X
Australia	Closed	Effectively capped	X		
Scotland	Closed	Capped	X		
Netherlands	Closed	Open			X

Source: (1) In Ireland, institutions set their own admission requirements.
(2) The Danish model allocates a fixed level of funding (differentiated by subject field) for each student that successfully completes the equivalent of 60 credits each year (25% of core funding is allocated as a fixed historical allocation). The unit price paid by government is derived from the available envelope, but fixed in legislation in advance.
Source: Drawing on Golden, Troy and Weko (2021[24]) *"How are higher education systems resourced? Evidence from an OECD policy survey*", OECD Education Working Papers, No. 259, Paris, https://doi.org/10.1787/0ac1fbad-en.

Between 2012 and 2018, Australia experimented with a demand-driven system for funding undergraduate education, with fixed payments guaranteed through the Commonwealth Grant Scheme (CGS), but no enrolment caps. The high cost of this programme led to the reintroduction of student limits per institution from 2018 onwards. England has also experimented with a demand-driven system, lifting enrolment caps on institutions from 2015-16 and guaranteeing students admitted to higher education access to public loans to pay the regulated tuition fees. This system remains in place, although the government has considered reintroducing enrolment limits to reduce competition for students between institutions in the system (UK Government, 2020[31]).

Alternatively, governments may fix the funding envelope for higher education institutions in a given budgetary year based on the previous year's envelope, with adjustments made to account for factors like inflation, projected student enrolment (such as the "reference estimate" process in the Netherlands (Dutch Government, 2021[32])) or political commitments, but without use of fixed or guaranteed units of funding. Funding allocation formulas in such cases are used to distribute the available funds to institutions, with the level of funding per unit in the formula (per student or per credit passed, for example) depending on the total number of units in the formula calculation (the denominator) and the size of the budget envelope (the numerator). As also shown in Table 3.4, the Flemish Community, along with Finland and the Netherlands use this model, albeit with different design features. In the Flemish Community, for example, the level of the budget envelope for the different funding components in the model (the base and variable for the three programme types) is established for up to a ten-year period in the Higher Education Code (Flemish Government, 2013[2]), although the projected budget trajectories are not respected in practice. Ireland uses a hybrid model with fixed unit payments (fees paid by the Government for each student), combined with a distributive formula for the budget envelope remaining after fee payments have been deducted.

The Flemish Community is the only system identified to date in the research for the OECD Resourcing Higher Education Project that combines a distributive funding model with a statutory mechanism to adjust the available budget envelope when enrolment increases or decreases by more than a specified threshold. The "click system" (see Box 3.2) provides a theoretical guarantee that the budget envelope for Flemish higher education institutions will be adjusted in line with enrolment, albeit to a restricted extent. The increase (or decrease) in the budget envelope for the variable components in the funding model in any year is limited to 2%, while an increase (or decrease) in the number of credits in which students are enrolled of at least 2% is required to trigger a "click". Furthermore, as illustrated by the experience in 2015 and 2016, when budget increases required by the "click system" were not implemented because of budget pressures, government budget setting remains inherently intertwined with the broader fiscal context and political processes, which cannot be controlled fully through regulatory mechanisms.

Trends in institutional funding in the Flemish Community

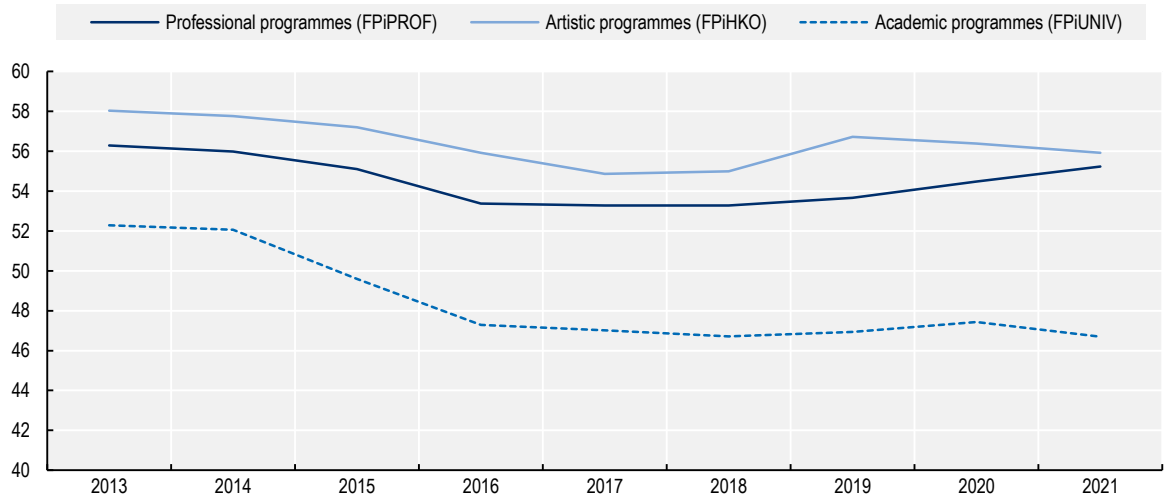
The base components of the teaching grant in the Flemish funding model are distributed using as the denominator the number of credits for which students are enrolled in the higher education system in the five-year reference period in the relevant programme types. The budget envelope for base components is fixed in the Higher Education Code and has been adjusted over time with inflation (albeit not in line with indicative budgetary planning in the legislation). The allocation model divides the budget envelope for each base component by the number of enrolled credits, effectively creating a payment to institutions per enrolled credit in a particular programme type. The variable components of the teaching grant are distributed based on the number of "funding points" generated by the system in the five-year reference period. Funding points are initially generated for enrolled credits, credits passed and degrees awarded by students eligible for public funding, averaged over the five-year reference period. The multipliers discussed above are then applied to generate a final total number of funding points in the system. As noted, the budget envelope available for each variable component, while nominally fixed in the Higher Education Code, depends on the outcome of a political budgeting process, taking into account the implications of the "click" system. The value of the payment for each funding point depends on the total number of points in

each of the three programme sectors in the reference period and the final size of the corresponding budget envelopes.

Figure 3.2 illustrates the evolution of the value of funding points in constant euros (adjusted for inflation) for the three variable components (for professional, artistic and academic programme) of the teaching grant from 2013 to 2021.

Figure 3.2. Amount allocated per funding point through the allocation model 2013-21

Values in constant (2015) euros per funding point by programme type



Note: Values in euros are adjusted using the Health Index with reference year 2015 = 100
Source: Data provided by the Flemish Agency for Higher Education, Adult Education, Qualifications and Student Grants (AHOVOKS). Statbel (2021) Health Index https://statbel.fgov.be/en/themes/consumer-prices/health-index (accessed on 11 August 2021).

StatLink https://stat.link/niq0ay

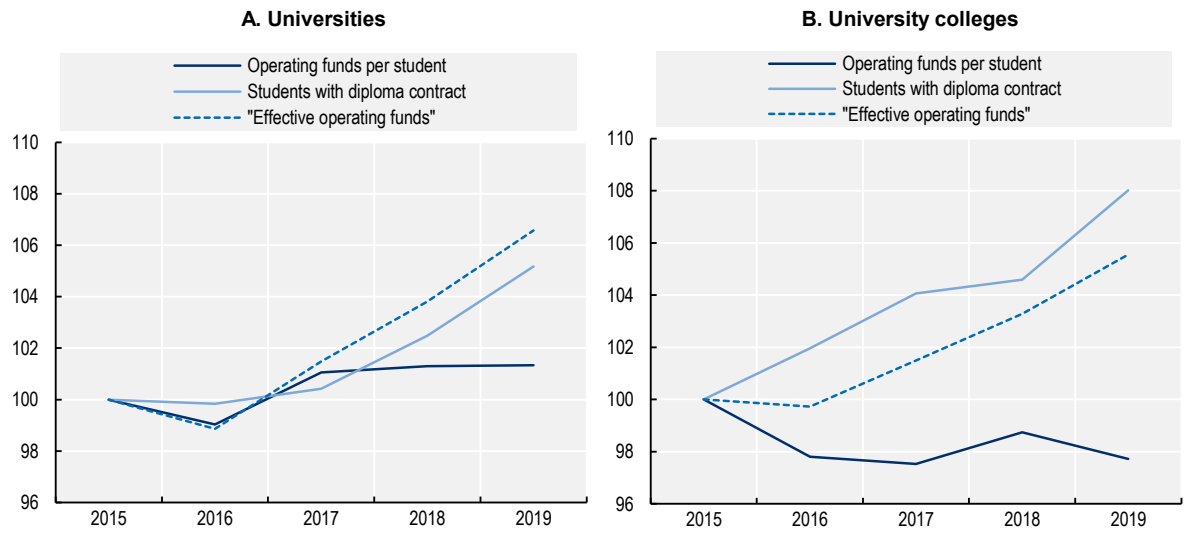
The value of a funding point for professional programmes initially decreased, after adjusting for inflation, by 5% between 2013 and 2018, before recovering, resulting in a real-terms decrease of 2% between 2013 and 2021. The value of a funding point for artistic programmes in Schools of Arts declined in real terms by 3.6% over the eight-year period and the value for academic programmes by 10.7%. In the case of the academic programmes, there was sharp decline between 2014 and 2016, followed by a period of relative stability since. As noted, the value of funding points in the variable components of the allocation model depends on a wide variety of factors and it is challenging to isolate the exact causes of the changes in value observed over time. If more students enrol for, or pass, more credits, study in greater numbers in study fields with higher weighting factors or complete more degrees in a given five-year period, the number of units will increase and, if the budget envelope stays constant, the value of each funding point will decrease.

A second way to assess the relationship between the resources allocated through the Flemish funding model and activity in higher education institutions is to examine the core operating grant received per student. Figure 3.3 shows the evolution in the average level of operating grant per unique degree-seeking student in the university and university college sectors between 2015 and 2019, as well as the evolution of the total operating grant for each sector and the number of unique degree-seeking students enrolled. Funding during this period was driven by average levels of student-related input and output parameters in successive five-year periods from 2007-2012 to 2012-2017. Degree-seeking students may study at

different intensities (be enrolled for different numbers of credits), so do not all call on the same level of amount of resources from institutions. However, a large proportion of students do study full time and it is reasonable to assume that all students require a basic level of support from administrative and academic staff in institutions, irrespective of their level of study intensity, making funding per unique degree-seeking student a relevant indicator.

Figure 3.3. Operating grant per student 2015-19 – universities and university colleges

Evolution of number of unique students with a "diploma contract", total operating grant and operating grant per unique student with a "diploma contract" for 2015-19 in constant (2015) prices (Index 2015 = 100)



Note: Years are financial years. "Effective operating grant" refers to the funding for each sector resulting from the formula allocation model, before the addition of supplementary grants (investment, student services etc.). The Government Commissioners counted each student in associate degree and specific teaching training programmes in 2019 as one-third of a student with a diploma contract, as these students only entered the university colleges towards the end of 2019 are were enrolled for only four months.
Source: Flemish Government (2020[14]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel II - Universiteiten (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part II – Universities)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 12 January 2021); Flemish Government (2020[19]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel I - Hogescholen (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part I – University Colleges)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 16 January 2021). Statbel (2021) Health Index, https://statbel.fgov.be/en/themes/consumer-prices/health-index (accessed on 11 August 2021).

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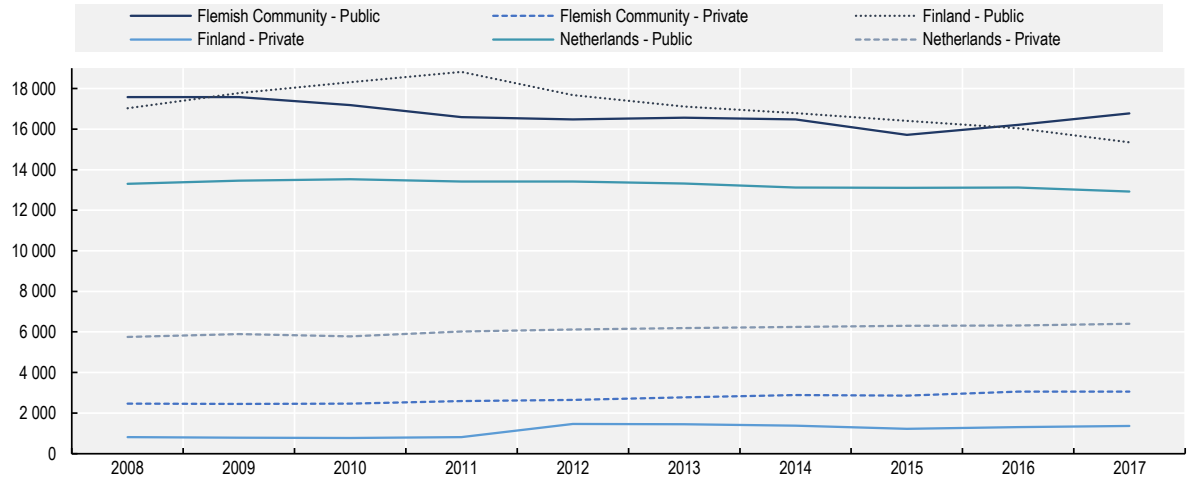
For universities (Panel A), the number of unique students with a diploma contract increased between 2015 and 2019 by 5%, the total operating grant from the formula in constant (2015) prices increased by 8%, leading to an increase in operating grant per student in constant prices of 1%. As shown in Figure 3.2, the level of funding per funding point for academic programmes declined by 5% in the same period, a difference possibly explained by an increase in study intensity, graduation rate or enrolment in high-cost programmes in the period. If these variables increase, the number of funding points generated by each student will also increase, meaning the value of a funding point can fall, while funding per student increases.

For universities colleges (Panel B), between 2015 and 2019, the number of unique degree-seeking students increased by 8%, total funding from the formula increased, after adjusting for inflation, by 6%, leading to a real-terms decrease in per-student revenue from the funding model of 2%. The relatively steep increase in enrolment of students with a diploma contract in university colleges between 2018 and 2019 was driven partly by the transfer of associate degree programmes from the adult education centres. These programmes are financed through a separate, earmarked funding stream. For the data presented here, the Government Commissioners counted each student on these programmes for only one-third of a "student with a diploma contract" in 2019, to account for the fact they were only enrolled for four months (Flemish Government, 2020, p. 3[19]). However, the data for the level of operating grant per student in university colleges in 2019 should be interpreted with caution.

International data also suggest there has been a modest decline in real terms spending per student on higher education institutions in the Flemish Community over the last decade. However, international data for the most recent years are not yet available and it is not possible to disaggregate data for universities and university colleges or to isolate institutional revenue from the operating grant (which is reported within an aggregated budget for spending from public sources). Figure 3.4 illustrates the change in public and private spending per full-time equivalent student on higher education institutions in the Flemish Community, the Netherlands and Finland from 2008 through 2017. The Netherlands and Finland were selected as comparators for the Flemish Community as they have similar higher education systems and reliable international data are available for the extended period covered.

Figure 3.4. Expenditure per student in constant prices 2008-2017 in three OECD jurisdictions

Expenditure from public and private sources on all higher education institutions (ISCED 5-8) per FTE student in USD adjusted for constant prices (2015) and constant purchasing power parity (PPP)



Note: It is likely that a change in methodology affected the values for private expenditure in Finland between 2011 and 2012.
Source: OECD Education at a Glance Database https://stats.oecd.org/. Data for the Flemish Community provided by the Flemish Department of Education and Training.

StatLink https://stat.link/mnhxqz

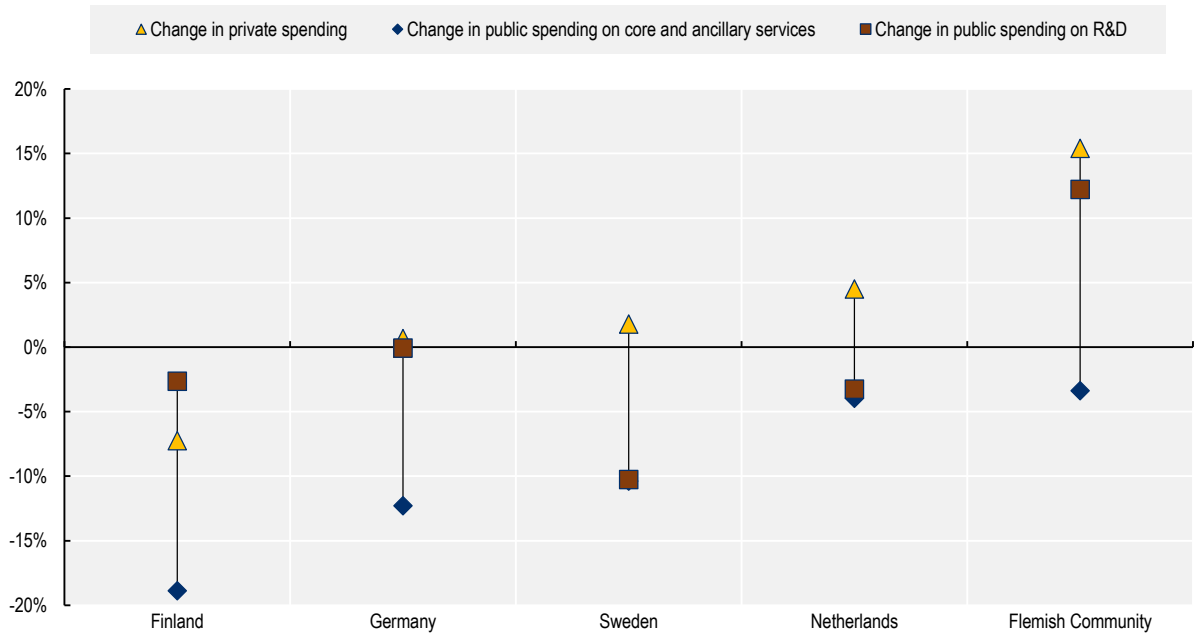
Between 2008 and 2017, total public spending (for teaching and research) per FTE student on higher education institutions (universities and non-universities together) decreased, after adjusting for inflation, by 3% in the Netherlands, 4.6% in the Flemish Community and 10% in Finland. In the same period, total

private spending per FTE student increased - from a lower base - by 11% in the Netherlands, 24% in the Flemish Community and 67% in Finland. In the Netherlands, this change partly reflects an increase in tuition fees (which are substantially higher than in the Flemish Community), whereas in the Flemish Community the change in private expenditure is likely to have been driven primarily by increased expenditure by businesses and non-profit bodies on research or service activities. The sharp change in private expenditure in Finland, albeit at a modest level, may partly reflect a change in institutional revenue classification with the change of the ISCED system in 2012.

The same international data on public spending per student on higher education institutions can be disaggregated into spending destined for R&D and spending for core and ancillary services (which includes teaching and operations), albeit only for the years since the 2012 ISCED reform. These data show that, while private spending on higher education institutions in the Flemish Community increased by 15% and public spending on research by 12% in real terms between 2012 and 2017, public spending on core and ancillary services decreased by 3%, after adjusting for inflation. In the Netherlands, Sweden, Germany and Finland public spending per FTE student on core and ancillary services decreased by more than 3% in real terms and public spending per student research also fell, with the exception of Germany.

Figure 3.5. Change in public and private expenditure per student in five OECD jurisdictions

Change in expenditure on all higher education institutions (ISCED 5-8) per FTE student from private sources and from public sources for core and ancillary services and for R&D in USD adjusted for constant prices (2015) and constant purchasing power parity (PPP) – 2012-2017



Source: OECD Education at a Glance Database https://stats.oecd.org/. Data for the Flemish Community provided by the Flemish Department of Education and Training.

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The fairness, transparency and predictability of the Flemish funding model

Drawing together the various elements discussed above, it is possible to draw some interim conclusions about the extent to which the Flemish funding model for higher education institutions is fair, transparent and predictable.

Fairness implies both that institutions are treated equally and that they receive their "fair share" of funding available in light of their real level of efforts, activities and costs. On balance, the Flemish funding system can be considered fair, as allocation of funds is based on objective criteria, which apply to all publicly funded institutions, and the model explicitly seeks to account for differences in the cost of providing quality education between programmes and institutions. The design of base funding components provides proportionally higher levels of funding to smaller institutions, compensating them partially for their more limited ability to generate economies of scale. The subject-area weightings, while partially arbitrary, seek to compensate institutions for differences in the cost of provision between fields and the weighting for students from designated target groups provides addition resources to devote to students who are typically most in need of support. The use of historical student-related data (t-7/t-6 to t-3/t-2) for the calculation of the allocations reduces year-on-year fluctuations in institutional funding, but weakens the alignment between activity levels and the funding received in any given year, which broadly disadvantages institutions with expanding enrolment and protects institutions with declining enrolment.

Whether or not the system is transparent depends on the perspective from which is it viewed. With modest application, it is relatively straightforward to understand the calculations that are made to allocate the available budget envelopes to institutions. However, the relatively large number of parameters and weightings mean that the Flemish funding model is undeniably complex. Models in comparable OECD jurisdictions use fewer parameters and weightings, which generally makes them easier for an average citizen, student or academic staff member to understand, but does not mean they are more effective. The complexity of the Flemish model results in large measure from the efforts to ensure institutions receive appropriate compensation for their efforts, as identified in the point above. However, the coexistence of multiple parameters in a distributive allocation model means the relationship between the value of a given activity or output parameter and the financial consequences for the institution is not always clear. Moreover, the real financial effect of many of the parameters used is further diluted by the use of historical averages as a calculation basis. In this respect, additive funding models, which provide fixed unit payments for different parameter values in the previous year, create a more direct relationship between activity or performance and the funding institutions receive. However, as noted above, such additive models are usually applied in combination with other mechanisms (such as student caps) to limit the total call on public budgets, while use of a single year as a calculation basis can result in larger year-on-year fluctuations in funding for individual institutions.

The funding model does not result in major annual changes in institutional funding, but neither does it guarantee a consistent value for the units of funding institutions will receive over time. The use of the five-year average of student-related variables as a calculation basis for the funding allocation and legal safeguards limit the scale of changes from one year to the next year in the overall level of funding institutions receive. However, the moving variables in the system that influence the number of funding points in the variable components of the model (enrolments, subject choice, study intensity, progression and completion) are influenced by the activities of all higher education institutions offering programmes of the same type (professional, artistic, academic). As such, institutions must take into account the activity of all institutions offering the same types of programme to be able to calculate and predict their share of the total budget envelope. However, this task has been complicated further as the level of funding in the budget envelopes to be distributed through the formula has frequently not been adjusted in line with the indexation method and budget trajectory specified in the Higher Education Code or, in some years, the "clicks" that were triggered by increased enrolment. This unpredictability of the number of units by which the budget

envelope must be divided and of the size of the budget envelope itself, make it challenging for institutions to plan their budgets precisely.

Achieving the appropriate balance between stability and proportionality of funding to current cost levels is inherently challenging. However, as discussed in the conclusions to this chapter, there is almost certainly scope to amend the approach to setting budget envelopes and simplify elements of the current model to create a more transparent and predictable system.

A frequent criticism of the system heard during the review interviews was that the current system creates a "zero-sum game" in the higher education system – and particularly among university colleges - as institutions compete for students. In reality, however, this issue does not result from the design of the funding model or even the level of funding in the system. Rather, it is the product of a largely stable student cohort and the existence of multiple institutions in the university college sector with similar profiles. Even if the system guaranteed a fixed amount of funding per student in a given field and funding payments kept pace with inflation, institutions offering the same programmes would still need to compete for students in a competitive market place. As discussed later, short of imposing recruitment limits on institutions – as done in some OECD systems – the solution to this issue in the Flemish context is most likely to lie in some further sharpening of the profiles of institutions that compete directly with each other for students, to allow them to offer more distinctive and differentiated programme mixes.

The Flemish Community links institutional funding to outputs, but is less explicitly performance-driven than models in some comparable systems

Whereas the fixed component of the teaching grant for Flemish higher education institutions is allocated based on the number of credits for which students are enrolled (a measure of input), the variable component of the model – which allocates over 90% of the total teaching grant – uses both input and output parameters. Until students pass their first 60 credits in a single degree programme, institutions receive funding for them from the variable funding components based on the number of credits in which the students in question are enrolled. This system is designed to compensate institutions for the costs they incur in educating and orientating students in the first stage of their higher education career. By rewarding enrolment in – rather than passing of – credits, the model guarantees institutions funding even if students initially fail courses or need to change programme. This is an important consideration in higher education systems with a comparatively low bar to entry, as in the Flemish Community, as there is typically a greater need to orient and support students than in selective systems. As discussed in the previous section, as with the other parameters in the variable component of the model, enrolled credits are weighted to account for cost differences between fields of study and to provide additional funding for students from non-traditional student populations.

From the point that students pass their 61st credit in a single degree programme, the funding model compensates the host institution for each credit the student passes and, ultimately, for the degree (diploma) that they obtain at the end of the programme. Students who have already successfully passed 60 credits still count towards the calculation of enrolled credits for the base component (*sokkel*) in the funding model. The output parameters were included in the model in the 2008 reform to reward institutions for supporting students to complete courses and programmes successfully (Flemish Government, 2015[1]).

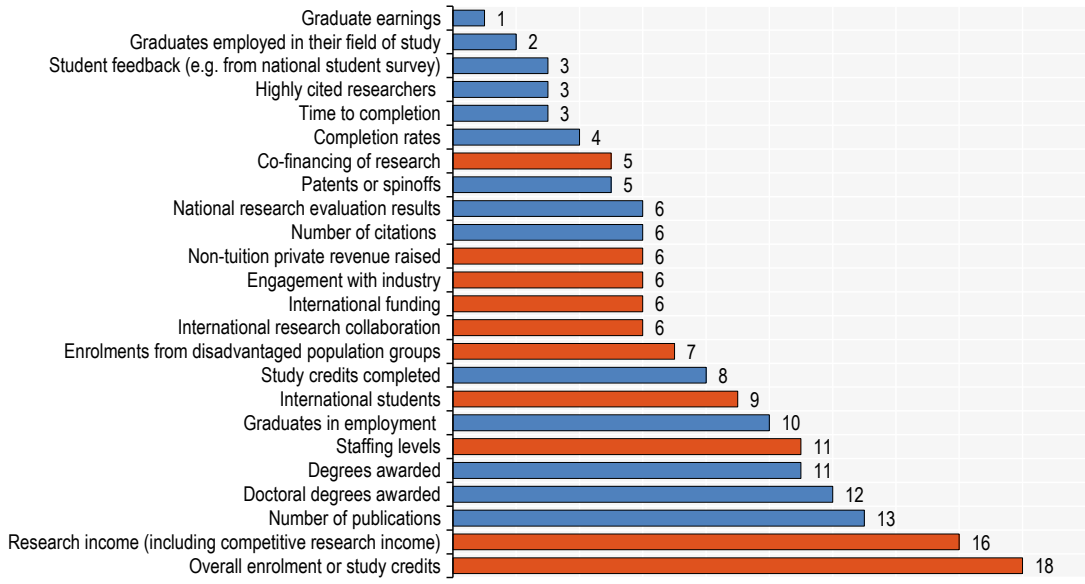
Other OECD jurisdictions have also linked institutional funding to output variables

As discussed, a majority of OECD jurisdictions use formula and indicator-based models to allocate at least a proportion of the public funding they provide to higher education institutions. Among these systems, an increasing number have included output and – in fewer cases – outcome variables in their formulas. Among the 27 jurisdictions responding to the 2020 Higher Education Policy Survey, 24, including the Flemish Community, indicated that they use a formula-based model to allocate funding to higher education institutions. Figure 3.6 presents the input, output and outcome variables that these jurisdictions indicated

that they use in their formulas for core institutional funding (which may include both teaching and research grants). While enrolment – an input variable – is the parameter used in the largest number of systems, research outputs (number of publications and number of PhDs awarded) are used in around half the systems covered, while degrees awarded and credits completed – measures of educational output – are used in 11 and 8 systems, respectively.

Figure 3.6. Input, output and outcome variables in formula-based funding allocation models

Number of responding jurisdictions using each criterion



Note: Total OECD jurisdictions responding = 27. In orange: input and activity-oriented factors. In blue: output and outcome-oriented factors.
Source: Golden, Troy and Weko (2021[24]) *"How are higher education systems resourced? Evidence from an OECD policy survey*", OECD Education Working Papers, No. 259, https://doi.org/10.1787/0ac1fbad-en.

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Outcome indicators related to graduate employment (such as graduate employment rates) are used in 10 systems, but few systems go as far as to link funding to graduate employment in sectors related to their field of study or graduate earnings.

A majority of OECD jurisdictions that allocate funding based on indicators do so through formula-based allocation models, as is the case in the Flemish Community. However, in a smaller number of systems, indicators are used in funding allocation in two additional ways, as summarised in Table 3.5. The first of these is to tie the award of funds from an additional "pot" of money to achievement of system-wide performance goals. In Denmark, for example, 7.5% of the budget envelope for the teaching grant to higher education institutions is allocated outside the main output-driven model, based on institutions' performance in relation to average study duration and the employment rate of graduates.

Table 3.5. Mechanisms used to allocate performance-based funding in selected OECD jurisdictions

	Output and outcome indicators in core funding formula		Separate budget envelope allocated based on output or outcome indicators		Institutional performance agreements with proportion of public funding conditional on observed performance		Institutional performance agreements as condition of funding, without financial penalties linked to observed performance
	Output	Outcome	Output	Outcome		%	
Denmark	X	X	X	X	X	1.25% (1)	
Ireland					X	10% (2)	
Finland	X	X					X
Flemish Community	X						
Scotland							X
Netherlands	X				X	3% (3)	

Notes: Output indicators include the number of credits obtained or the number of degrees awarded, while outcome indicators include graduate employment rates or the results of student feedback exercises.
(1) In Denmark, part of the fixed base funding (*grundtilskud*) is linked to the strategic framework contracts.
(2) In Ireland, there is a provision for withholding up to 10% of the allocation for the institutional block grant if performance targets are not met, but financial penalties have never been applied in practice.
(3) In the Netherlands, additional payments possible based on real performance in last year of operation of the quality agreements programme in 2024, amounting to around 3% of the value of total quality funds allocated over the six-year period 2019-24.

The second method is to tie the payment of a specific proportion of the institutional funding envelope to institutions' performance in relation to quantitative targets established in institutional performance agreements. The first generation of performance agreements in the Netherlands (between 2012 and 2017) used a set of seven nationally determined indicators, for which institutions agreed their own targets. Payment of 5% of the total teaching grant was made dependent on achievement of these quantitative targets. The system of institutional compacts in Ireland establishes a long list of indicators at national level, from which institutions can choose in formulating their own institutional targets. Under the first generation of these institutional compacts (2014-17), payment of up to 10% of the total teaching grant was made conditional on progress towards targets established by institutions, as part of a regular process of monitoring and dialogue between institutions and public authorities.

The new system of quality agreements in the Netherlands, running from 2019 to 2024, which followed on from the previous experiment, makes payment of a bonus funding allocation in 2024 dependent on institutions' making satisfactory progress in relation to the goals of their quality agreements. However, rather than focusing primarily on centrally determined quantitative metrics, it relies on qualitative assessment by the national accreditation body (the Accreditation Organisation of the Netherlands and Flanders – NVAO). The financial penalties provided for with the Irish system of institutional performance compacts were never applied in practice. Under the Irish system performance framework for 2018 to 2020, a modest level of additional funds have been made available annually by the Government, with competitive financial awards made each year to institutions that can demonstrate particularly good examples of achieving objectives established in their compacts. These awards are made on the basis of qualitative case studies, submitted by institutions and assessed by an independent panel (HEA, 2019[33]).

Table 3.6 provides an overview of the proportion of the teaching grant to higher education institutions in six OECD jurisdictions, including the Flemish Community, that is allocated using input, output and outcome variables, as well as historical allocations that are not determined by indicators. This illustrates that the Flemish Community allocates a higher proportion of funding for teaching based on output variables than comparable jurisdictions such as Estonia, Norway or Ireland (the latter using a formula driven by enrolment numbers), a similar proportion to Denmark and a smaller proportion than Finland. Denmark and Finland both link a small proportion of total funding for teaching to outcome indicators: graduate employment outcomes in Denmark and the results of student feedback surveys in both Denmark and Finland.

Table 3.6. Proportion of core teaching grant allocated by variable type (selected systems)

Country		Input / activity	Output	Outcome / other performance	Historical
Denmark		0%	67.5% (activity grant) + 3.75% (results grant –study duration)	3.75% (results grant – graduate employment rate) + 2.5% (performance component of basic grant)	22.5% (guaranteed basic grant)
Estonia		0%	~6% (output performance indicators)	11% (other performance indicators) + 3% (performance agreement)	80%
Norway		0%	~27% (performance indicators)	~5% (performance indicators)	68%
Flemish Community (1)	Universities	32% (enrolled credits)	68% (output – credits passed & diplomas)	0%	0%
	Professional programmes in university colleges (2)	47% (enrolled credits)	53% (output – credits passed & diplomas)	0%	0%
Ireland		100%	0%	10% of core grant linked to institutional compacts	0%
Finland	Universities	0%	83%	17%	0%
	Universities of applied science	0%	88%	12%	0%

Notes: (1) Proportions for input variables for the Flemish Community include the base component of funding, assumed to be 9% of the total teaching grant.
(2) The ratio of input to output indicators for artistic programmes in Schools of Arts (hko) in 2020 was roughly 36% to 64%.
Proportions for the Flemish Community are based on 2020 data provided to the OECD by the Flemish Agency for Higher Education, Adult Education, Qualifications and Student Grants (AHOVOKS). Other information is based on OECD research.

International research provides limited evidence that output-based funding systems have a strong influence on performance

Although an increasing number of OECD member countries have introduced output and outcome-related funding models, robust research into the effects of such systems has been limited. State governments in the United States were among the first in the OECD to embrace output-based funding, initially in the 1980s and 1990s and subsequently in another wave of reforms in the 2000s. As a result of this early experimentation, as well as the advanced evaluation capacity that exists in the US scientific community, most available studies into the effects of performance funding are from the United States. A significant number of these deployed robust quasi-experimental research designs. A recent analysis of the results of these studies (see Box 3.3) found only limited evidence of positive effects from performance-based funding systems on target variables, such as student progression and completion rates. The analysis also found widespread examples of unintended and undesirable consequences (Ortagus et al., 2020[10]).

Fewer studies have investigated the impact of output and outcome funding in European higher education systems, although the evidence that does exist suggests a similarly limited impact. A study in Denmark found the completion-oriented “taximeter” system to have had a mixed influence on completion rates in Danish higher education institutions. At the Copenhagen Business School, for example, the implementation of the taximeter was followed by an increase in completion rates at the bachelor’s level, but a reduction in rates at the master’s level (Claeys-Kulik and Estermann, 2015[34]). Likewise, an evaluation of different performance-based funding formulas used in German federal states between 2000 and 2008 found that their introduction was rarely followed by significant changes in the outcomes they sought to influence, casting doubt on their efficacy, particularly given the cost of their implementation (Dohmen, 2016[35]).

Box 3.3. The effects of performance-based funding: evidence from the United States

In the United States, 41 of the 50 states have linked state appropriations for higher education institutions to outputs or outcomes in the last 20 years. These systems have typically used credit hours earned, degrees awarded and attainment among historically under-represented groups as variables. The proportion of state appropriations now tied to output and outcome indicators varies from 3% in Arkansas to 100% in Ohio. State appropriations typically account for less than 50% of total income in public universities in US states, although can account for a higher proportion of revenue in public community colleges, which generally charge substantially lower fees (OECD, 2020[30]).

In meta-analysis, Ortagus et al. examine evidence from research studies with strong causal inference designs examining the effects of these performance-based funding (PBF) systems in the United States. The evidence review focuses on 23 studies with quasi-experimental designs and a further 15 studies using robust difference-in-difference techniques.

They find that the introduction of PBF systems is associated with no or only minor positive effects on retention and graduation (completion). Modest positive effects have been established for a limited number of longstanding PBF programmes and for elements of PBF models that provide bonuses for degrees achieved in specific fields (notably targeting additional institutional funds to boost uptake of STEM subjects). Moreover, there is some evidence that institutions took steps to improve academic and student support services in response to PBF systems focused on progression and completion. However, the evidence review also found that the introduction of PBF systems frequently has unintended consequences:

- Selective institutions tend to become more selective, disadvantaging under-represented groups, who face the greatest challenges in accessing and completing higher education.
- PBF systems tend to exacerbate funding disparities between institutions, with lower-resourced institutions losing out on funding that could potentially be used to improve performance. This is a particular concern for Historically Black Colleges and Universities (HBCU).

The authors conclude that it is challenging, in higher education, to apply and implement performance-based funding systems that focus on a narrow set of outputs (or a single output) given the wide range of desirable outputs generated by universities and colleges. Furthermore, they question whether the principal-agent approach inherent in most PBF systems is an appropriate means to regulate relations between government and autonomous higher education institutions, particularly given a more general shift away from top-down accountability mechanisms in education in recent years.

Source: Ortagus et al. (2020[10]) *Performance-Based Funding in American Higher Education: A Systematic Synthesis of the Intended and Unintended Consequences*, http://dx.doi.org/10.3102/0162373720953128.

In contrast to the limited effects found from the output-based formula systems, the study of German higher education systems by Dohmen (2016[35]) found that “target agreements” (*Zielvereinbarungen*), in which institutions specify goals and actions and agree these with government in exchange for funding, were associated with more positive effects. Notwithstanding the challenges of proving causality, these reported effects included observable changes in measurable indicators, such as increases in third-party funding and improved graduation rates in universities of applied science. Perhaps more significantly, the introduction of performance agreements in German federal states was found to have led to an increased focus on results and more strategic, evidence-based decision-making in higher education institutions. This is consistent with analysis of the introduction of performance agreements in Finland, which is reported to have increased understanding and management of costs and the focus on performance within universities.

Another study, in North-Rhine Westphalia (Germany), reported in de Boer et al. (2015[9]), also found that performance agreements provided a basis for better internal decision-making in higher education institutions. A similar pattern was found in Ireland in relation to the system of institutional compacts, which appears to have had limited direct effect on the behaviour of institutional staff and observed outputs, but to have improved institutional strategy and dialogue between the institutions and public authorities (O Shea and O Hara, 2020[36]).

The systematic evaluation of the first generation of Dutch performance agreements also concluded that the agreements had generated positive effects on the organisation and strategic focus of higher education institutions (Reviewcommissie Hoger Onderwijs en Onderzoek, 2017[37]). In particular, the review commission responsible for the evaluation argued that the process of developing, negotiating and monitoring the agreements had helped higher education institutions to refine their institutional strategies, tailor their educational offerings and, in universities, sharpen their research profiles. The evaluation also noted that pass rates and on-time completion rates in universities increased during the implementation period for the performance agreements, but that on-time completion rates in bachelor's programmes in universities of applied science actually decreased (from 70% to 67% overall), particularly in the large institutions in the Randstad. The review team acknowledged that the inherently challenging (or impossible) task of establishing causal relationships (either positive or negative) between the performance agreement system and outputs (such as pass rates) was made even harder by an accumulation of other policy changes that were implemented in parallel.

The Dutch review commission examining the first generation of Dutch performance agreements concluded that a new generation of agreements should avoid the strong focus on centrally determined quantitative indicators and adopt a more qualitative approach, albeit with measurable indicators of progress at institutional level:

> *The committee recognises the limitations of working with indicators: not everything that is valuable can be measured. It is therefore important that in the assessment of and accountability for the agreements there is room for the context and the underlying story of the institution. Performance agreements offer the possibility of a strategic dialogue with the institution. The risk of strategic behaviour and perverse effects is greater if performance indicators are part of a mechanically applied formula in the funding model. The committee recognises the importance of qualitative goals, but is of the opinion that there must also be demonstrable efforts and results.[OECD translation] (Reviewcommissie Hoger Onderwijs en Onderzoek, 2017, p. 73[37])*

The balance of evidence internationally therefore suggests that performance agreements (or "quality agreements" in their latest iteration in the Netherlands) can have positive effects on system governance and institutional strategy, but that their impact of core output variables is likely to be limited or, at best, mixed. This raises the question of how to formulate the objectives of such agreements in a realistic way, how to incorporate specific, measurable, achievable, relevant and time-bound (SMART) measures into agreements and whether and how to link agreements and institutional funding. It seems likely that institutional agreements might function most effectively as accountability, transparency and strategic planning tools and that these should be their primary objective. To function as accountability tools, to take up the phrase of the Dutch review commission, there must be "demonstrable efforts and results", but the use of one-size-fits-all indicators is ineffective as it masks complex realities. Using tailored institutional agreements with a limited number of SMART targets that can be assessed through qualitative as well as quantitative methods could be a promising approach. This is broadly the model now adopted in the Netherlands and Finland.

In terms of linking funding to performance agreements, different models exist as illustrated in Table 3.5. In all cases, with the exception of Ireland, the proportion of funding made dependent on achieving goals in the institutional agreement is small. In Ireland, the nominal rate of 10% of total funding linked to institutional compacts is largely notional, as no institutions have ever incurred a financial penalty in practice (O Shea and O Hara, 2020[36]). The limited available evidence suggests that attaching a small amount of money to institutional agreements can be sufficient to incentivise institutions to take the agreements and the process

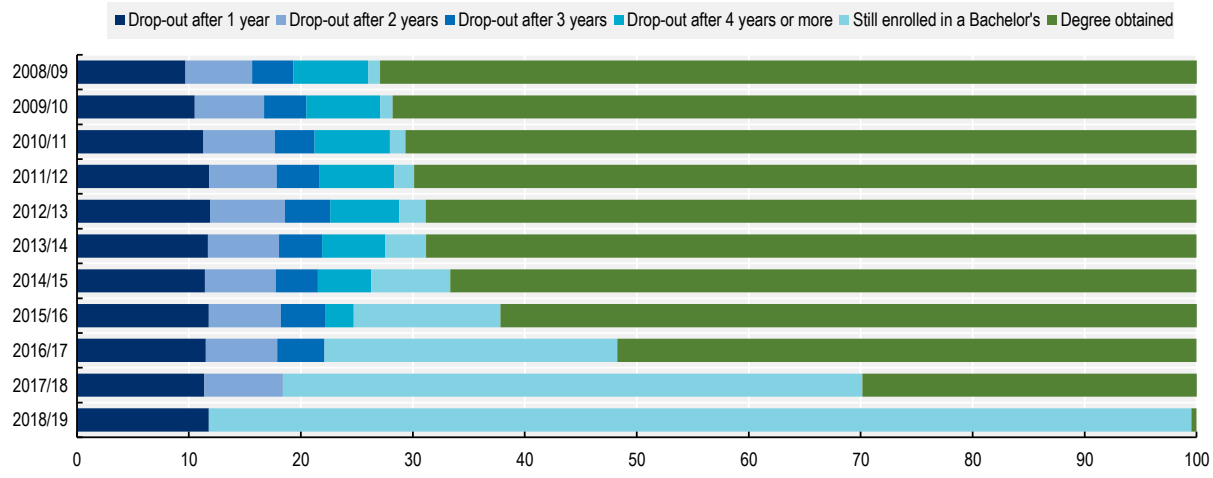
seriously, while avoiding perverse effects that might arise from a process with higher stakes in financial terms (de Boer et al., 2015[9]; Reviewcommissie Hoger Onderwijs en Onderzoek, 2017[37]). As with most public policies, introducing systems of performance agreements is best implemented with the addition of at least some new funds to the overall funding envelope for higher education institutions, rather than purely through the reallocation of existing funds. For this reason, the Irish Higher Education Authority (HEA) has moved to a system that provides additional "bonus" payments to institutions that can demonstrate particularly strong examples of achievement of goals in their institutional performance compacts (HEA, 2019[33]).

Output-related funding has had no measurable effects in the Flemish Community

The output-linked funding model introduced in 2008 in the Flemish Community has not been subject to the kind of robust impact analysis used in some of the US studies analysed by Ortagus.et.al. (2020[10]) and highlighted above. The internal evaluation undertaken by the Flemish Government in 2015 came too early to observe long-term trends, and other reforms, including the recent transfer of academic programmes out of university colleges, complicated the analysis (Flemish Government, 2015[1]). Nevertheless, the 2015 evaluation already noted that there was no evidence of an improvement in progression and completion rates in period between 2008 and 2015 and that average "time-to-degree" had even increased.

Figure 3.7. Drop-out rates among first-time students in the Flemish Community

Proportion of first-time students (*generatiestudenten*) who drop-out of bachelor's programmes after 1, 2, 3 and 4 years.



Source: Translated from Statistiek Vlaanderen (2021[38]) *Drop-out in het hoger onderwijs (Drop-out in higher education)*, https://www.statistiekvlaanderen.be/nl/drop-out-in-het-hoger-onderwijs (accessed on 1 June 2021).

StatLink https://stat.link/185fwz

As shown in Figure 3.7, the rate at which first-time students in bachelor's programmes drop out of their studies after one, two and three years have remained stubbornly constant – and even slightly increased in the period since 2008. Other evidence suggests that the proportion of degree-seeking students enrolling for less than the full-time equivalent of 60 credits has risen in recent years – for example from 16% to 18% between 2016/17 and 2017/18 (Flemish Parliament, 2019[39]).

Apart from the inherent challenges of supporting students from an increasingly diverse set of backgrounds to choose study programmes aligned with their capabilities and work effectively to pass their courses in a

timely manner, several aspects of the Flemish funding and study credit model are likely to influence progression and completion rates. Firstly, the incentives for institutions to adapt their behaviour in response to the inclusion of output parameters in the funding model are weak. In particular, there is no limit on the time that a student can take to acquire their first 60 credits, up to which point institutions are funded on the basis on enrolled credits (inputs).

Perhaps more significantly, the structural mechanisms designed to incentivise students to make wise choices about what to study and to progress swiftly through their studies also appear to fail to create strong incentives. The learning credit (*leerkrediet*) system (see Box 3.1) was conceived as a way to influence student behaviour by limiting the time they could spend in higher education without progressing successfully. However, the high starting credit of 140 credits and the 60-credit bonus students receive on passing their first 60 credits mean that students often have “spare” credit in their account and may have limited additional incentives to be careful about study choices, study more intensively or progress more swiftly through their degree programme.

At institutional level, a legally regulated system of “study progress monitoring” (*Studievoortgangsbewaking*) is in place, which allows institutions to impose mandatory conditions on students who do pass sufficient credits and, ultimately, to refuse to re-enrol them if they continue to show poor progress. A review of this system, which also considered the learning credit mechanism, concluded that the study progress monitoring process intervened too late, when students had failed 50% of their credits (Werkgroep "Studievoortgangbewaking", 2014[4]). It recommended a lower threshold for intervention at institutional level and a “tightening” of the study credit system at system level. The study recommended removing the double counting of the first 60 credits passed by students and placing limits on the time students can take to obtain a qualification (time to graduation). Of these recommendations, only the change to the intervention threshold for study progress monitoring appears to have been implemented (intervention now occurs if students fail 40% of the credits for which they are enrolled).

There is evidence from Flemish higher education and internationally that students’ initial momentum in their studies has a determining impact on their chances of success. Students in Flemish higher education who enrol for higher numbers of credits in the early stages of their higher education career are found to have higher chances of passing credits and obtaining qualifications than students who take lower numbers of credits (Werkgroep "Studievoortgangbewaking", 2014[4]). This finding is supported by a body of work in the United States focusing on study “momentum”, which also finds that students with higher study intensity at the start of their higher education career are significantly more likely to complete a degree (Attewell, Heil and Reisel, 2012[40]; Clovis and Chang, 2019[41]). As it is understood that the proportion of first-time students in Flemish higher education enrolling for fewer than 60 credits has increased in recent years, this is a factor that warrants careful consideration in policy design.

The Flemish funding model provides limited funding for strategic investment in capital and innovation

Alongside ensuring that higher education institutions have adequate resources to operate on a day-to-day basis and that institutions fulfil their missions efficiently and effectively, governments have an interest in making sure that institutions can invest in their longer-term strategic development. In this regard, two, inter-related, types of investment are likely to be of greatest importance for the long-term sustainability of higher education institutions.

The first is investment in buildings and equipment (capital investment), which intrinsically requires a longer planning and budgetary horizon than expenditure on operations, and typically involves large volumes of resources. The second is investment in institutional changes to respond to an evolving environment and to improve the effectiveness of activities. These two types of investment are inter-related because decisions about long-term investments in capital need to be informed by an understanding of future organisational structures and approaches to learning, research and service. The design of buildings, for

example, needs to take into account factors such as the predicted future size of the student and staff bodies, how staff and students will work together and, particularly in light of increasing digitalisation, the balance between on-campus and online learning.

Chapter 7 of the report considers some of the main areas where innovation and structural change are likely to be required in higher education systems – including the Flemish higher education system – in coming years. The remainder of this section considers how higher education institutions obtain and allocate revenue for strategic investment in capital and innovation in the Flemish Community and in other OECD jurisdictions.

Capital investment

Higher education institutions require good quality, fit-for-purpose buildings and equipment to fulfil their missions to a high standard. Moreover, the quality of buildings and equipment plays an important role in institutions' ability to attract staff, students and external and contract funding. In analysis of capital funding in the UK, Frontier Economics (2015[42]) based their analysis on the assumption that an institutional operating surplus of 7% is required simply to maintain buildings and equipment in good order. Additional resources are required to invest in expansion, major reconfigurations or replacement of existing building stock.

As noted earlier in the chapter, some OECD jurisdictions, including the Flemish Community, Ireland, England and many US states, provide dedicated capital grants to higher education institutions. This earmarked funding is additional to the core block grant funding, which institutions in many systems, including the Flemish Community, are free to spend as they wish, including on capital projects. Other OECD higher education funding systems, such as Denmark and Finland, provide no dedicated capital funding and expect higher education institutions to plan and finance their investment through the block grant funding they receive from the state and their own funds. There are advantages and disadvantages to both these approaches. A dedicated capital grant makes explicit the need to invest in buildings and infrastructure and can create an opportunity for serious discussions on how much funding is required for a long-term capital programme. The experience of several OECD jurisdictions with dedicated capital grants, including in all the jurisdictions cited above, is that they are typically insufficient to cover the capital investment needs of institutions. Moreover, given the less immediate impact of funding reductions, tend to be a target for cuts in times of fiscal constraint. The level of capital grants also tends to follow the availability of funding at government level, rather than the timing of needs within institutions, creating the risk that funds are unavailable when most needed or poorly invested when available.

Relying on core funding to fund capital projects means that institutions have the autonomy and flexibility to plan their own capital investments in line with their institutional strategies and incentivises institutions to get the best possible value for money out of the investments they make. However, there is always a risk that capital investment is "forgotten" when determining the size of budget envelopes for higher education institutions at system level and that capital investment is seen as a luxury, rather than a necessity.

In the Flemish Community, universities and university colleges fund the lion's share of their capital investments with their own reserves and the level of borrowing to fund investment is reported to remain limited. In 2019, capital grants were estimated to cover only 6% of the investments made by Flemish universities (Flemish Government, 2020[14]). The interviews conducted for this review revealed that the low level of public capital subsidies has not stopped Flemish higher education institutions form investing in new buildings and renovations. However, higher education institutions report that there is a backlog of maintenance and investment in the system and that a large proportion of historical buildings and – often poor quality – buildings dating from the large-scale expansion of higher education in the 1960s and 1970s will soon require major renovations or total replacement. This is all the more important given the Government's emissions targets and new regulations on the energy efficiency of building stock. The challenges of adapting the system to digitalisation and lifelong learning add to these underlying issues.

Funds for broader strategic investment

Higher education institutions typically fund some investment in strategic development from general operating revenue. However, major new projects, institutional restructuring and significant investments in innovation, whether in digital infrastructure, staff development or new laboratory equipment, require investment capital. Governments explicitly or implicitly provide such resources for investment in three main ways:

1. In many OECD higher education systems, there is a general expectation that institutions will *fund strategic development from their own funds*, a large proportion of which may come from public core funding that is nominally intended for day-to-day instruction or research activities. Institutions are typically able to re-allocate funds internally and to create internal funds for strategic development at institutional or departmental level. This is the broad expectation in systems such as Denmark, the Flemish Community of Belgium and, historically, the Netherlands.
2. A second, frequently used, approach is for governments to provide *targeted funding* to institutions for strategic development or innovations in specific areas linked to government priorities as earmarked grants or through competitive calls for proposal. The vast majority of the 28 OECD jurisdictions responding to the Higher Education Policy Survey on resourcing indicated that they used targeted funding for strategic priorities. This is the approach used in Ireland, for example, where a proportion of the total budget envelope for higher education institutions is reserved ("top-sliced") for national targeted funding programmes. Although targeted funding allows governments to ensure resources are allocated to policy priorities, the allocation of funds typically occurs through calls for proposals, which can be time-consuming and administratively burdensome. If the sums of money involved are relatively small, such calls can quickly become inefficient for both public authorities and institutions.
3. A final approach is for governments to *explicitly allocate a proportion of core funding to institutions for strategic development*. In practice, in the primary examples of this approach identified in the OECD Resourcing Higher Education Project, the funds for strategic development are added to the block grant to institutions to allocate freely, but the strategic component of the funding is explicit, rather than implicit as in the first approach. Finland and Austria both use institutional funding models with three pillars for a) education; b) research and c) strategic development. A majority of funds for strategic development in Finland and all such funds in Austria are allocated to institutions as part of the block grant, but institutions have to account for their use of the funds through performance agreements. The Netherlands uses a similar approach, although the strategic funds take the form of a dedicated quality fund (*kwaliteitsbekostiging*) that is earmarked for a broad set of quality-related investments (Dutch Government, n.d.[43]). Here again, the funds are intended to support activities and objectives agreed in quality agreements (see above) between the government and each beneficiary institution.

The need for investment in strategic development emerged as an important theme in the interviews with higher education institutions conducted for this review. The high proportion of institutional revenue absorbed by staff and fixed costs in the Flemish Community leave institutions with little margin to invest in future-oriented developments.

3.3 Policy issues and recommendations for the core funding model

The analysis in the preceding sections has highlighted the careful design of the core funding model for higher education institutions in the Flemish Community, with its focus on ensuring a fair allocation of funds and on rewarding institutions for supporting students to progress within, and complete, their studies. Nevertheless, the analysis also pinpoints a number of challenges related to the design and operation of the current system:

1. In operation, the funding system has only succeeded in creating a comparatively weak alignment between real activity and cost levels in higher education institutions – generated by changes in enrolment, for example – and the amount of funding these institutions receive. In recent years, the value of each "funding point" in the variable component of the model has declined in real terms in universities and stagnated in university colleges. This affects institutions' ability to plan effectively and invest in quality education.
2. Including output-related parameters in the funding model, alongside input indicators, has not resulted in the desired changes to observed outputs and has proven a largely ineffective way for government to influence performance in the system.
3. The current system of core funding and associated supplementary grants allows institutions freedom to allocate funds internally, but, in practice, provides limited resources for institutions to invest in strategic development, including future-oriented capital investment.

The remainder of this section examines possible policy options to address these three issues.

Policy issue 1: Aligning funding to costs and increasing transparency

The core teaching grant for publicly funded higher education institutions in the Flemish Community is composed of two main types of unit: an amount in euros for each credit for which students are enrolled from the base component of the model and an amount in euros for each funding point generated by the variable component of the model. The value of these units depends on:

1. The average total number of study credits for which all eligible students in Flemish higher education institutions are enrolled for the five-year period t-7/t-6 to t-3/t-2 and the distribution of this enrolment between smaller and larger institutions (see Table 3.1). These factors drive the value of the base component of institutional funding.
2. The average number of funding points generated by student-related input and output variables and multipliers in the same historical five-year period. This drives the value of the variable component of the grant.
3. The value of the budget envelopes available for distribution through the base and variable components in a given budget year.

The first and second variables will always change for year to year, as students' enrolment decisions and behaviours change. As discussed earlier, the size of the budget envelopes available depends on the nominal annual budget trajectory established in advance the Higher Education Code, the level of annual indexation to account for inflation, the influence of the "click" system and – crucially – political choices on whether and how to implement the budget allocations and adjustments provided for in the relevant legislation. The combination of these moving variables makes it challenging for institutions to calculate their annual budget in advance. The student-related variables result from the total level of activity in all programmes of the same category (professional, academic, etc.) in the Flemish Community, not just in a single institution, while government decisions about the size of the total budget envelope have a fundamental impact on the level of funding institutions receive, with some changes occurring at short notice.

The higher education sector in the Flemish Community stresses, in particular, that the Government has not increased the budget envelopes in line with inflation (indexation) and the planned budget trajectories ("growth paths") specified in the Higher Education Code in recent years. Moreover, governments have repeatedly failed to implement upwards "clicks" to the budget envelope triggered by enrolment increases. This occurred most recently in 2015 and 2016. The current government (2021) also plans to implement smaller increases to the budget envelope for higher education institutions than those set out in the budget trajectory published in the Higher Education Code and not to implement "clicks" triggered by enrolment growth for academic programmes in universities for the years 2021 and 2023 (Flemish Government, 2020[44]).

Increasing the budget envelopes would be the least technically challenging way to address the real-terms decline in the value of funding points for academic and artistic programmes discussed earlier. Respecting the budget trajectories and principles for indexation and "clicks" established in advance in legislation would also significantly increase the transparency and predictability of the funding system for institutions.

However, increasing the budget envelope in line with planned budget trajectories alone would not change the fact that the funding model, in combination with the open access admissions system, allows unit funding rates (resources per funding point) to fluctuate over time. Fully eliminating such fluctuation would almost certainly require the creation of fixed unit funding rates, such as fixed payments for specific groups of study field for each credit that students enrol for and pass, as used in some other OECD jurisdictions. However, if the current open access admission system in Flemish higher education – with no enrolment caps – were maintained, a system of fixed payments would require a move to an "open" budget envelope, as the cumulative value of the unit payments required to compensate institutions for student-related activity could easily exceed any planned "closed" budget envelope.

The only notable recent experience of an OECD jurisdiction using an open budget envelope was Australia's experimentation with "demand-driven" enrolment in the years up to 2018. This experiment was halted because of budget constraints, with the introduction of enrolment caps at institutional level. As the Flemish system allocates funding based on historical enrolment, progression and graduation trends, rather than simply the previous years' enrolment as in the Australian system, public authorities would have a greater ability to predict budgetary requirements and calculate unit payment levels in advance. Denmark applies a funding system with regularly adjusted unit payments that are established for several budget years at a time. However it uses a funding formula with fewer parameters than the Flemish system and overall enrolment limits for higher education institutions. For universities, for example, in each annual budget round, the Danish Government calculates fixed unit prices per 60 passed credits (student full-time equivalent or *studenterårsværk*) in three subject price categories for the next three years, based on past completion rates and enrolment projections.

"Additive" funding models, with fixed unit payments established for a number of years in advance, can be simpler to communicate than the current model and create a more transparent relationship between institutional actions (such as recruiting a student from a target group or successfully supporting a student to acquire a degree) and the amount funding the institution receives. A fixed unit payment for students from specific target groups effectively guarantees institutions additional funds for each student from these groups, unlike the multiplicative weightings as used at present in the Flemish Community and in Ireland.

However, despite these advantages, it is questionable whether an additive model could be made to be financially sustainable in a higher education system with an open access admissions model system, such as that in the Flemish Community. Particularly in the current economic climate, the financial implications of such a model are unlikely to be palatable for the Flemish Government. Nevertheless, given the concerns about ensuring transparency and simplicity in funding in parts of the Flemish higher education sector, it would be instructive to analyse the effects of such an additive model, both on public funding requirements and on the distribution of funds between institutions.

Any move to a funding system with fixed unit payments would not fundamentally change the reality of intense competition between institutions for students – an issue frequently raised by interviewees consulted during this review, particularly in the university college sector. When the funding an institution receives depends largely on student-related parameters, there will always be a strong incentive for institutions to recruit as many students as feasible, including through competitive recruitment practices. In the Flemish context, this competition is almost certainly exacerbated by the existence of institutions offering similar programmes in close geographical proximity to each other. While some higher education systems, such as England, have historically tackled the risk of excessive inter-institutional competition by imposing enrolment limits for each institution, such an approach is incompatible with the open access model in the Flemish Community. A possibly more promising approach might be to support greater institutional specialisation. This topic is addressed in Chapter 7.

Recommendations

- In recognition of the crucial role of higher education in contributing to Flemish Government goals, notably in the fields of skills and knowledge creation and funding shortfalls in recent years, the Flemish Government should seek to **increase the value of the budget envelope for the operating grant to higher education institutions**, as soon as feasible from a budgetary perspective. The objective would be to restore the real-terms value of funding points used in the variable component of the model and the value of weighted payments per enrolled credit resulting from the base component of the model (*sokkel*) to the levels provided at the time of the introduction of the model. As a minimum, the Flemish Government should provide a transparent analysis of the cost of restoring funding levels and, in light of the real-terms cuts implemented in recent years, establish a realistic total funding level and timeframe for reaching this.
- Linked to the above, the Flemish Government should **review the budget trajectories (growth paths) established in legislation** for the budget envelope for the operating grant to higher education institutions, revise these to ensure they are fiscally viable and, subsequently, respect their engagements towards higher education institutions by providing the level of funding planned. The current situation, where planned budget allocations are specified in law but not implemented, significantly reduces the predictability of the funding system and the ability of higher education institutions to plan effectively.
- As an input to a potential future review of the core funding model, the Flemish Government should **analyse the budgetary implications of a funding model for the core operating grant that establishes fixed unit payments** for enrolled credits, credits passed and degrees awarded in different price categories, based on careful projections of student numbers. Once established, such unit payments could be valid for a set number of financial years and recorded in secondary legislation, like current budget trajectories. As noted, such a system may not be fiscally sustainable in an open access system such as that in the Flemish Community. Only more detailed analysis can confirm this.
- The Flemish Government should also **analyse the impact of using a simplified set of subject-area weightings for the professional programmes**, to reduce the complexity of this aspect of the current model for awarding operating funds to higher education institutions.

Policy Issue 2: Promoting and supporting institutional performance through policy

OECD member countries use multiple policy tools in their efforts to ensure higher education institutions perform their activities to a high quality and make efficient use of resources. Among these tools are regulatory measures relating to the qualification of staff, external accreditation and quality assurance systems, financial audits, systems of transparency and reporting and public funding systems. As discussed in this chapter, research in different OECD jurisdictions suggests that performance-linked formula funding models tend to have limited effects on institutional performance and may generate perverse effects. In the Flemish Community, there is no evidence of the current funding model for the teaching grant, which includes credits passed and degrees awarded as output parameters, leading to unintended consequences, such as a lowering of standards or increased selection in institutions. Equally, however, there is no robust evidence of the model having positive effects on the variables it sought to influence: student progression, completion rates and time to degree.

Given that the inclusion of output indicators in the funding model appears to do no harm and highlights the importance of progression and completion as policy objectives, there is no pressing reason to eliminate these indicators from the funding model. Moreover, a radical change to the parameter mix in the funding model risks creating instability in the system for no clear benefit. Nevertheless, it would be unwise to assume that the inclusion of output parameters in the funding formula will have a significant impact on progression and completion rates in the years to come.

The commitment in the Flemish Community to allowing open access to higher education means that the system will always have to deal with higher rates of initial re-orientation of students, slow progression and student drop-out than systems that select students rigorously at entry. Nevertheless, there may be scope to increase the incentives for students to progress effectively in their studies by adjusting the systems of “learning credit” and study progress monitoring, while maintaining and developing existing and valuable orientation and support services for students as they enter and advance within higher education.

Alongside such actions, there is also scope in the Flemish higher education system to exploit the potential of institutional agreements as a complementary mechanism to strengthen accountability, transparency and focus on outcomes. As discussed above, carefully designed performance or quality agreements can be an effective way for institutions to demonstrate commitment to societally relevant goals and focus efforts to achieve these, while allowing differentiation and respecting the autonomy of institutions for designing and implementing their own strategies. Institutional agreements in other OECD jurisdictions that set out institutional strategies and planned actions in relation to shared goals have had positive effects on dialogue between public authorities and higher educations, strategic planning in institutions and communication and results-orientation among staff in the systems where they have been used.

Although models of institutional agreement vary, such systems generally have the advantage of allowing a more nuanced, qualitative approach to performance improvements and strategic development in a wide range of areas of activity than funding models driven by a limited set of standardised quantitative metrics. Moreover, agreements between institutions and government can more easily be designed as compacts between equal partners, relying on mutual trust, than models based on standardised indicators, with their inherent principal-agent relationship. Systems of institutional agreements require careful design. Key issues for higher education institutions and public authorities include how to specify goals against which progress can be measured, without encouraging a fixation on indicators, and how and when to assess achievement of the goals established. As discussed in this chapter, institutional agreements can be implemented without a direct link to institutional funding and, even in those systems where a link is made, the value of funding made conditional on achieving goals is typically limited. Nevertheless, evidence from OECD jurisdictions that have implement institutional agreements also suggests that such agreements work best when at least a modest level of additional funds is made available to incentivise and reward the engagement of institutions (de Boer et al., 2015[9]).

Recommendations

- Higher education authorities and stakeholders in the Flemish Community should **revisit the recommendations of the 2014 review of the system of learning credit (*leerkrediet*) and study progress monitoring (s*tudievoortgangbewaking*)** (Werkgroep "Studievoortgangbewaking", 2014[4]), as part of ongoing work to improve student progression and completion rates. In particular, it will be important to analyse the likely impact of the proposed reforms to the system of learning credit, such as removing the 60-credit bonus students receive on passing their first 60 credits and introducing maximum timeframes for passing 60 credits.
- Higher education authorities and stakeholders in the Flemish Community should **continue to support and develop promising initiatives to help students make sound choices** about what to study, such as the "calibration test" (*Ijkingstoets*), and continue to support institutions to invest in high-quality guidance and support services for students. The further development of such services could be included in future institutional agreements.
- To strengthen further the accountability and results-orientation of the higher education system, the Flemish Government, in partnership with the higher education sector, **should consider introducing a system of quality agreements or compacts** between government and each higher education institution. Institutions would be invited to formulate key development objectives for a four or five-year period, with specific actions and methods for assessing success in relation to the goals. Agreements, which do not need to be lengthy documents, should be accessible, public documents and could be limited to specific areas of institutional activity (such as quality of the educational experience and student guidance), as in the Netherlands, or cover a wider range of activities, including research and service, as in Ireland. The appropriate coverage for institutional agreements in a Flemish context would need to be decided as part of the domestic policy-making process.

  In any eventuality, it will be important to draw on lessons from agreement systems that have been implemented in similar jurisdictions, in particular, the Netherlands, Finland, Denmark, Ireland and Austria. Options for the design of the system might include:

  - A modular structure to agreements with sections establishing, for the same period, goals and actions for learning and teaching and research, in each case with related strategic and capital investments. This would require close cooperation between the Ministries of Education and Training and of Economy, Science and Innovation, with the involvement of other relevant departments and agencies responsible for the issues covered by the agreements. Care will be needed to ensure that agreements remain concise, focused documents with a manageable number of specific, measurable, achievable, relevant and time-bound (SMART) objectives.
  - A bundling of all or a proportion of new and existing complementary, earmarked and targeted funding outside of the main block grant as a "strategic investment fund" to support achievement of the goals in the agreements (see below). This funding could be supplemented by additional resources if this were feasible. The majority of this funding could be made available to institutions in return for concluding an institutional agreement, with a small proportion of funds made conditional on successful achievement of the objectives of the agreement.
  - A strong role for the umbrella organisations for higher education institutions (The Flemish Inter-university Council and the Flemish Council for University Colleges) in designing and implementing the process.

- The establishment of an independent review panel to assess the draft agreements drawn up by institutions and subsequently assess achievement against established goals. There could be merit in involving a limited number of international experts in the review panel.
- Assessment of performance in relation to the objectives in the institutional agreements could occur annually and/or after the four or five-year implementation period. Assessment could be coordinated by the independent review panel, with performance assessed in a qualitative manner on the basis of accounts of how goals have been achieved by institutions, rather than a simple reliance on quantitative indicators. There is merit in ensuring the implementation period for agreements does not align directly with government terms to avoid real or perceived risks of political interference into what should be primarily a technical exercise.

Policy Issue 3: Supporting the strategic development of institutions

The lack of a recurrent funding allocation for strategic investments and the limited availability of funds for capital investment were identified as significant challenges for Flemish higher education institutions during the review interviews. The discussion in this chapter has highlighted that Flemish institutions are not alone and that few higher education funding models make explicit allocations for strategic investment. A notable exception to this is Finland, which allocates 15% of total public funding to universities and 5% of total funding for universities of applied science for strategic development. These funds are allocated to institutions in return for strategies negotiated in performance agreements. In light of the identified needs in the Flemish Community, there are likely to be further lessons to learn from the Finnish system.

The specific issue of funds for capital investment deserves specific attention. The level of annual public funding specifically for capital investment allocated in recent years (around EUR 33 million) is widely considered by Flemish stakeholders to be insufficient. At the same time, institutions are free to use core funding for capital investment, as many institutions do. Although there would appear to be a case for an increase in funding for capital investment, it is difficult to formulate specific recommendations on the level of resources needed for capital investment on the basis of the evidence available to this review. Particularly in light of competing pressures on public spending, further analysis of capital investment needs in the higher education sector and of options for financing these will be required at Flemish level. Given the comparatively low level of the funds earmarked for capital funding and the widespread practice of using other funds for capital investment at institutional level, the rationale for maintaining a separate funding line is questionable.

Recommendations

- The Flemish Government should consider bundling existing or planned earmarked and targeted funding for higher education institutions to **create a "strategic investment fund" to support higher education institutions** in achieving the goals established in the proposed institutional agreements. The existing capital grant could be integrated into this fund. This would allow a simplification of funding streams and less reliance on potentially burdensome calls for proposals, while maintaining a link between objectives (established in institutional agreements) and funding received. If the option of implementing institutional agreements is adopted, funding could be provided in exchange for finalising the institutional agreement and for reporting on progress. If sufficient funding were available, a "bonus" payment for successful implementation at the end of the agreement period as in the current Dutch model could be considered (VSNU, 2021[45]).
- The Flemish Government, in partnership with the higher education sector, should **review and quantify the capital investment needs** of the higher education sector as a basis for making strategic decisions on future policies to support capital investment. A transparent analysis of capital investment needs and of the feasibility of alternative funding options (borrowing, attracting private sector investment, etc.) would provide a solid basis for requests for additional public resources. Should additional funding be both required and available, this could be directed through the core operating grants or the proposed "strategic investment fund" proposed above.

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4 Institutional funding for research

This chapter takes a closer look at the grants the Flemish authorities allocate directly to higher education institutions in the Flemish Community to support research activities. The Flemish higher education funding system provides significant resources for research directly to universities, including the research component of the operating grant and earmarked grants for fundamental and applied research (the Special Research Funds and the Industrial Research Funds). The Flemish government also allocates a more modest level of funding to university colleges as part of their block grant to support “practice-oriented research” in the programmatic fields in which these institutions are active.

4.1 Funding for research in higher education in the Flemish Community

The focus on research funding in this chapter, and in the review more generally, is on core funding provided by government to higher education institutions to maintain and develop their in-house research capacity. In line with a widely held view in higher education policy internationally, the analysis assumes that teaching in all higher education institutions should be informed by the latest knowledge in the disciplines taught. Academic and teaching staff in professionally and academically oriented programmes should, as a minimum, be able and willing to engage with new research findings in their field and incorporate lessons from this research into their teaching practice and the broader support they give to students. In research-intensive institutions, such as the five Flemish universities, a research-active academic staff is a precondition for high quality research-based teaching and learning, as well as for high quality basic and applied research that expands and enriches the knowledge base on which societal development depends.

The level and form of public funding for research has an important influence on the capacity of higher education institutions to create research-informed learning environments for students, to train and nurture new generations of researchers and to allow research-active staff to generate new knowledge and expertise through research activity. In the Flemish Community, as in other OECD jurisdictions, external, project-based funding from public research agencies, businesses and non-profit bodies contributes a significant share of total revenue for research in higher education, particularly in the university sector. This chapter considers theses sources of funding to the extent that they impact on the overall resourcing of higher education institutions, but does not assess in detail how competitive research funding systems – such as those operated by research councils – are designed and implemented in Flanders or other OECD jurisdictions. Such an enterprise would require a review in its own right.

Before examining how different aspects of the core research funding system for Flemish higher education institutions are perceived and perform and how they compare to the situation in other OECD jurisdictions, it is helpful to consider the broader research funding landscape within which Flemish universities and university colleges operate. This section provides an overview of the main public research funding mechanisms targeted at Flemish higher education institutions, the different revenue streams that higher education institutions receive for research and the weight of research performed in higher education in the Flemish research system.

Direct grants to institutions are part of a broader landscape of public research funding

Flemish higher education institutions have access to a diversified set of public funding streams to support research. In addition to the foundational support for research provided to universities through the operating grant, which serves primarily to support staff and running costs, the Flemish government provides:

- Universities with an earmarked grant for basic research, which they allocate internally: the Special Research Funds (*Bijzondere Onderzoeksfondsen* or BOF);
- Funding for competitive research grants, administered by the Research Foundation – Flanders (FWO), the Flemish research council. This is the main source of funding for doctoral and post-doctoral positions, as well as an important source of funds for basic research (see below);
- An allocation of funds to support the development of research capacity in academic programmes transferred from university colleges in 2013, referred to as Supplementary Research Funds (*Aanvullende onderzoeksmiddelen*);
- Funds allocated to the associations of universities and university colleges to support strategic basic research and applied research and to stimulate knowledge transfer and valorisation: the Industrial Research Funds (*Industrieel onderzoeksfonds* or IOF) and funding for cooperation with the business sector (referred to in Flanders as “interface activities”);

- A more modest allocation of funds for "practice-oriented research" (*Praktijkgericht wetenschappelijk onderzoek* – PWO) in university colleges, allocated as a supplementary component of the operating grant for these institutions (*PWO-middelen*).

Table 4.1 provides an overview of the target beneficiaries, objectives and allocation methods for these funding mechanisms, along with the total budget allocated to each in 2020. The sections that follow provide a brief review of each the main mechanisms.

Table 4.1. Public funding instruments for research in Flemish higher education

Funding instrument	Target beneficiaries	Objective	Allocation method	Total budget in 2020 (EUR)
Research component of the operating grant (*werkingsmiddelen*)	Universities only	To contribute to the core operating expenses of universities, including staff costs, overhead and capital investment	System-level budget for research component set in relation to teaching grant in a ratio of 55% teaching to 45 % for research. Base funding component for research (*onderzoekssokkel*) allocated according to numbers of a) doctorates awarded and b) publications produced using average value for the years t-7 to t-2. Criteria for allocation of the variable funding component for research include: degrees awarded, publications & citations, appointments of academic staff from other institutions and academics who are women.	385.5 million (1) (base component of 115.5 million + variable component of 270 million)
Special Research Funds (*Bijzondere Onderzoeksfondsen* - BOF)	Universities only	To stimulate capacity in fundamental research in universities guided by universities' own research strategies (through project funding, tenure track funding for early-career researchers and structural support for top researchers)	At system level: EWI allocates the BOF to universities using a new allocation formula (*BOF key*) introduced in 2019: 50% structural (fixed); 22.5% bibliometric outputs; 27.5% other output / policy goal indicators). Within universities, BOF funds are allocated using internally developed criteria, overseen by internal research councils (*onderzoeksraden*).	220 million
Research Foundation – Flanders (*Fonds voor Wetenschappelijk Onderzoek – Vlaanderen* FWO)	Primarily Universities and Strategic Research Centres (SOCs)	To stimulate excellent fundamental and strategic research through competitive award of funding for PhD candidates, post-doctoral fellows, research projects and infrastructure	Competitive awards by the FWO are based on applications by individuals affiliated to Flemish universities or the public Strategic Research Centres (2)	368 million
Supplementary Research Funds (*Aanvullende onderzoeksmiddelen*)	Academic programmes transferred to universities from university colleges	To strengthen the research capacity of academic staff employed on academic programmes previously affiliated to university colleges	At system level: AHOVOKS allocates funds to academic programmes based on number of credits taken and number of degrees awarded.	86 million
Industrial Research Funds (*Industrieel onderzoeksfonds* - IOF) & funding for "interface activities"	University associations (university + associated university colleges)	To stimulate strategic basic and applied research, as well as knowledge transfer and valorisation with the wider economy/business community	At system-level: EWI allocates IOF funds to each university association using a specific allocation formula based on: doctorates, publications, contract income, patents, spin-offs. Internal allocation within associations.	51.7 million (IOF) 4.5 million ("Interface activities")

Funding instrument	Target beneficiaries	Objective	Allocation method	Total budget in 2020 (EUR)
Funds for practice-oriented research (*Praktijkgericht wetenschappelijk onderzoek – PWO-middelen*).	University Colleges only	To stimulate the development of high-quality practice-oriented research in university colleges	AHOVOKS allocates the PWO funds to each university college on the basis of the number of credits taken in initial professional bachelor's and "bachelor-na-bachelor" (i.e. based on scale of instructional activity).	30 million

Note: (1) This figure represents 45% of the core operating grant for universities that is allocated using the main formula (excluding supplementary grants added outside the formula) and represents the proportion of funds allocated using research variables. By convention, the Department of Economy, Science and Innovation (EWI) assumes that 25% of the core operating grant is used for research in practice.
(2) The four Strategic Research Centres in Flanders are: imec, the Flemish Institute for Biotechnology (VIB), Flanders Make and the Flemish Institution for Technological Research (VITO).

The Special Research Funds (BOF): earmarked institutional grants for basic research

The Special Research Funds (BOF) are designed to allow universities to maintain and develop their internal capacity to undertake high quality basic research. In 2021, total funding for BOF amounted to EUR 222 million. The funds are provided to universities in the form of three earmarked grants. The largest of these grant components (around 87% of the total allocation in 2021) is provided to allow universities to fund basic research projects and related researcher positions through internal allocations and competitive procedures, over which the universities themselves have a large degree of autonomy. A smaller component (8.6% of total BOF funding in 2021), called the Methusalem programme, is allocated to provide long-term (seven-year) research grants to outstanding senior academics. The final component (4.4% of total BOF funding in 2021) is allocated to pay for tenure track positions for outstanding post-doctoral researchers. Researchers selected for these posts are funded to undertake research for five years, at the end of which, subject to a positive evaluation, they can be appointed as full-time academic staff without the need for a position to become vacant or be opened (Flemish Government, 2020[1]).

The Flemish government's Department of Economy, Science and Innovation allocates the funds to the five universities using a specific allocation formula that was significantly revised in 2019, following an evaluation of the mechanism in 2018 (Korlaar, Bongers and Groot Beumer, 2018[2]). In the same year, the annual budget for the BOF was increased by more than 25%. This increase resulted from the injection of EUR 37 million of new funding and a EUR 5 million increase already planned as part of the ongoing integration into universities of academic programmes previously located in university colleges. This brought the annual allocation to over EUR 220 million, with the majority of the increases maintained for subsequent years.

The revised formula for distributing the BOF provides 50% of total BOF funds based on universities' performance in relation to bibliometric and policy-related allocation criteria (parameter groups "B" and "C") observed in different multi-year reference periods and recalculated annually. The other 50% (parameter "A") is allocated based on the historical average vales of parameters "B" and "C" for the previous five years. The parameters used in the allocation formula (referred to as the BOF "key") are summarised in Table 4.2.

Table 4.2. The allocation formula for the Special Research Funds (BOF key)

	Weight from 2019	Weight from 2024
A1 Historical allocation	50%	50%
B1 Publications - Web of Science	10.5%	10.5%
B2 Publications - Flemish Academic Bibliographic Database for the Social Sciences and Humanities (VABB-SHW)	4.5%	4.5%
B3 Citations	7.5%	7.5%
C1 Number of doctorates	9%	8.25%
C2 Distribution of citations in Science Citation and Social Science Citation Indexes	10%	9.25%
C3 International co-publications	3.75%	3.5%
C4 Share of financial returns from EU research framework programmes	3.75%	3.5%
C5 Inter-disciplinary publications (indicator to be defined)	0%	2%
C6 Diversity of the researcher population (gender)	1%	1%

Source: Flemish Government (2019[3]) *Flemish Government Order on the Special Research Funds* (*BOF-Besluit*) https://www.ewi-vlaanderen.be/sites/default/files/bof_-_besluit_van_de_vlaams_regering.pdf (accessed on 4 June 2021).

Unlike its predecessor, the new formula no longer uses the number of previously awarded bachelor's and master's degrees as a criterion for allocating the BOF and significantly reduces the weight of PhD awards in the formula. By introducing a substantial fixed element, recalculated only every five years, it aims to create greater stability in funding for universities. Moreover, the new formula reduces the weight attached to traditional bibliometric indicators (publications and citations), but introduces new parameters designed to capture the quality of research outputs in a more nuanced way (citation distribution parameters) and promote international cooperation. From 2024, the new allocation formula will also use a parameter to measure and reward inter-disciplinary research (Flemish Government, 2020[1]). The parameters employed in the BOF key use different reference years, depending on the nature of the indicator. For example, the number of doctorates and the number of publications are calculated as the average for each university for the reference years t-6/t-5 to t-3/t-2 (where "t" is the current budgetary year), while the calculation of the number of citations takes into account research outputs published between 12 and 5 years before the calculation date.

The revised BOF key, like its predecessor, uses the Web of Science (WoS) as the main source of bibliometric data for fields such as engineering, the natural sciences and medicine. To ensure that publications in Dutch are adequately taken into account, the allocation system draws on a dedicated Current Research Information System (CRIS) to capture publications in the social sciences and humanities. The Flemish Academic Bibliographic Database for the Social Sciences and Humanities (VABB-SHW) registers academic publications from the social sciences and humanities authored by researchers affiliated to Flemish universities that appear in journals and publication media approved by an authoritative panel (ECOOM, n.d.[4]). This system is similar to those used in the Nordic countries to record publications in these fields (Zacharewicz et al., 2019[5]).

To ensure that all five Flemish universities have access to funds to develop their internal research capacity, the legislation governing the BOF guarantees minimum shares of total BOF funding for the three smaller universities. The University of Hasselt is guaranteed 4% of total funds, the VUB 10.5% and the University of Antwerp 13% (Flemish Government, 2019[3]). In practice, in 2021, the VUB and the University of Antwerp received more than or exactly their guaranteed minimum shares as a result of the calculation using the standard parameters of the BOF key. The University of Hasselt, which would not have reached 4% of the budget based on the standard calculation, received 4% of the total BOF budget because of the guaranteed minimum.

Alongside the changes to the funding allocation formula, the modifications to the BOF in 2019 also introduced a new component to support cooperative research projects between universities (Interuniversity

BOF or "iBOF"). Around one-quarter (EUR 10 million in total) of the additional funding for the BOF provided by the Flemish government in 2019 is pooled between the five universities to fund projects involving at least three researchers from at least two universities. Researchers initially submit outline proposals to the internal research councils in the universities involved in each project proposal, which invite shortlisted candidates to submit full proposals in a second round. In the first call for proposals in 2020, the 30 projects admitted to the second round were evaluated by an international panel of five experts, in a process contracted out to an external provider, with funding allocated to the 15 top-ranked proposals (VLIR, 2020[6]).

The BOF is designed to allow universities to pursue and fund their own research strategies and create additional space for investigator-driven research in the Flemish research system. The Research Foundation – Flanders (FWO) also supports investigator-driven research projects through its competitive calls, meaning there may be a choice of potential funding streams available for a particular research project or initiative. In practice, individual academics and departments are likely to make strategic choices about whether particular projects are more likely to be successful in the external competitions organised by the FWO or the internal competitions and allocation processes organised within universities for the BOF funds. There are clear incentives for universities to encourage academics to apply for external research funding before, or in parallel to, applying internally for BOF funds, so that total institutional revenue is maximised.

The Industrial Research Funds (IOF): earmarked funds for strategic and applied research

The Flemish government provides the Industrial Research Funds (IOF) as grants for strategic basic and applied research in support of knowledge transfer and valorisation (see discussion of terminology below) to the legal entities formed by the associations of universities and university colleges (see Chapter 2). The IOF had an annual budget of EUR 52.4 million in 2021, which is also allocated to the associations as an earmarked grant, which is then distributed internally within the association through formal selection procedures. IOF resources can be used to support research projects and specific staff positions related to knowledge transfer and valorisation, such as business development specialists.

The main objectives of the IOF are to support the development of strategic basic and applied research aligned to the needs of the economy and to bring innovations to the market. The funds are allocated to the associations of universities and university colleges in recognition of the combined role of universities and university colleges in creating links between higher education and other economic sectors, and to strengthen cooperation in research between the institutions in the associations. The IOF is complemented by funding (amounting to EUR 4.5 million in 2021) for "interface activities", specifically designed to support cooperation between higher education institutions and the business sector, stimulate knowledge transfer and promote the exploitation of research results generated within universities and university colleges across all disciplines. The funds for "interface activities" are provided to central technology and knowledge transfer offices for each association, to support the researchers with the procedures related to issues such as patents, spin-offs, contract research and license agreements.

Table 4.3. The allocation formula for the Industrial Research Funds (IOF key)

Parameter	Weight
1. Proportion of doctorates awarded in the association	5%
2. Average share of publications and citations in the association	5%
3. Average share of income from industrial contracts (with degressive weights)	30%
4. Share of income from European Union framework programmes	20%
5. Share of patents registered with US, European and other recognised patent offices	20%
6. Share of spin-off companies established by the association in reference period	20%

Source: Flemish Government (2009[7]) *Flemish Government Order on the Industrial Research Funds* (*IOF-Besluit*), https://codex.vlaanderen.be/PrintDocument.ashx?id=1018147 (accessed on 4 June 2021).

As in the legislation governing the BOF, the legislation governing the IOF specifies minimum percentages of the total IOF budget for the three associations that include the three smaller universities. The association of higher education institutions in Limburg (including the University of Hasselt) is guaranteed 4% of the IOF budget, the Brussels association (including the VUB) is guaranteed 9.5% and the association in Antwerp (including the University of Antwerp) is guaranteed 10.4% (Flemish Government, 2009[7]).

Transferred academic programmes receive additional funds to strengthen research capacity

From 2003 onwards, the Flemish government began to provide targeted funding – initially referred to as "academisation" funds – to support research within academic programmes that were at that time delivered in university colleges. These dedicated funds were retained in the 2008 reform of the funding model for higher education institutions. Funding was further increased in 2012 and the allocation renamed "Supplementary Research Funds", in advance of the transfer of most academic programmes from university colleges to universities. The objective was to allow the transferred programmes and those that remained in university colleges within the Schools of Arts to expand their internal research capacity. The annual budget for the Supplementary Research Funds is established in the Higher Education Code, with funding increasing every year up to 2025. In 2020, the budget for Supplementary Research Funds (for both universities and Schools of Arts) amounted to EUR 86.4 million (Flemish Government, 2020, p. 144[1]).

Funds are allocated based on the average number of credits taken and degrees awarded in the academic programmes transferred to universities and in Schools of Arts. The resources may be used to cover staff, operating and exceptional costs related to increasing research capacity in these programmes. Studies have found that the funds are being used within institutions to support the transferred academic programmes, but progress in building up research capacity varies between faculties and disciplines (de Boer and Jongbloed, 2018[8]; Rekenhof, 2018[9]). Early evaluations of the effects of the Supplementary Research Funds were, however, undertaken before the effects of the funds could realistically be felt, particularly as the initial budget available was comparatively low and is progressively increasing over time (de Boer and Jongbloed, 2018[8]).

In addition to the "academisation" funds allocated by the Ministry of Education and Training, the Department of Economy, Science and Innovation has provided a modest level of grant funding specifically for programmes transferred to universities from university colleges in the integration process. These funds are integrated into the allocation for the Special Research Funds (BOF).

University colleges receive an additional grant for practice-based research

University colleges engage in practice-oriented research (*Praktijkgericht wetenschappelijk onderzoek* – PWO) as part of their mission to promote the application of new knowledge and innovation in the professional fields in which they operate education programmes. Such research activities, generally undertaken in direct cooperation with employers and professionals, complements the applied, strategic and basic research undertaken in universities.

As noted, the university colleges receive a specific funding allocation for practice-oriented research that is paid by the Agency for Higher Education, Adult Education, Qualifications and Study Grants (AHOVOKS) in addition to the formula-based operating grant. In 2020, the total budget for the practice-oriented research grant, which is allocated to institutions based on their share of enrolled study credits, was EUR 30.2 million (Flemish Government, 2020[1]). In addition, the university colleges receive some financial support for knowledge transfer projects, training for researchers and research equipment from the Flemish Agency for Innovation and Enterprise (*Vlaams Agentschap Innoveren en Ondernemen* – VLAIO) (VLAIO, 2019[10]). The TETRA (TEchnology TRAnsfer) programme, for example, provides funds to university colleges and universities through open calls for proposal to support technology transfer activities and had an annual budget of almost EUR 9.6 million in 2020 (Flemish Government, 2020[1]). In addition, the VLAIO ran a call

for proposals in 2020 with a total budget of EUR 2 million to fund infrastructure investments in university colleges to support research into digitalisation, the circular economy and sustainability and energy and climate (VLAIO, 2020[11]).

Income for research in universities and university colleges

The analysis of the income streams of Flemish universities and those in five other comparable OECD jurisdictions undertaken for this review examined the main sources of university funding for research in the systems covered. Figure 4.1 presents a synthetic breakdown of the proportions of total institutional revenue in the university sectors in the six jurisdictions that come from targeted or earmarked funding for research, as well as core, block grant funding that is allocated for research. In all cases, the proportions shown represent averages for the university sector in the jurisdictions in question, based on consolidated accounting data for the most recent year from which such data were available to the review team. In all jurisdictions, there will be considerable variation between universities in the actual patterns of income.

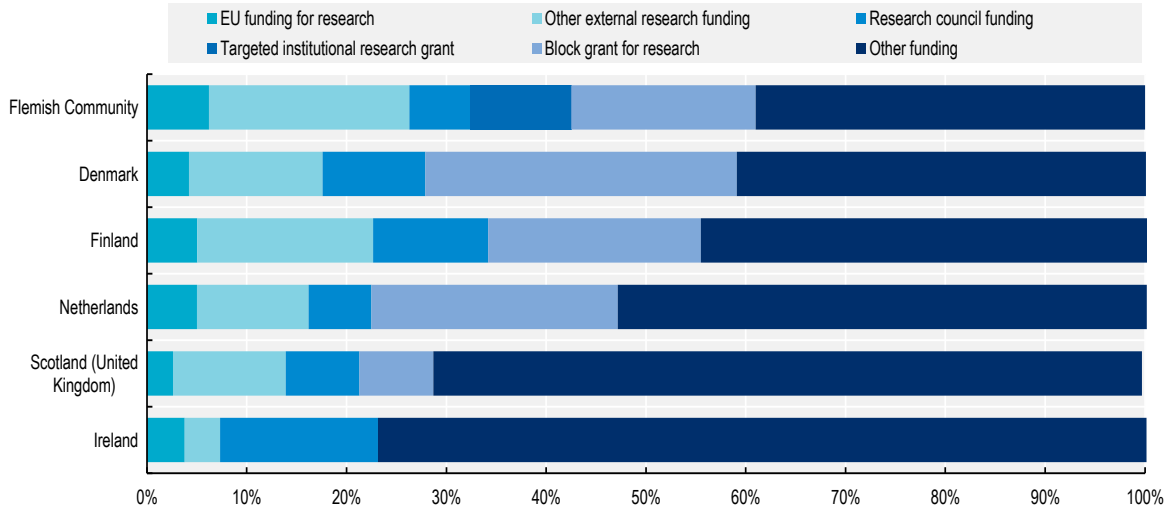
Figure 4.1 shows the proportions of core funding that are nominally allocated to universities for research within national funding allocation mechanisms. In the Finland, for example, this is 34%. In practice, however, block grant funding for research is not earmarked specifically for research activities and will often be absorbed by general salary and operating costs within universities. In the Flemish Community, 45% of the core operating funds allocated to universities are formally destined for research and this is the proportion used for the calculations underlying Figure 4.1 to ensure comparability with the other jurisdictions shown. However, by convention, the Flemish authorities take into account only 25% of core operating funds for research in the calculation of total public spending on research.

The other income components illustrated in Figure 4.1 represent, as far as possible, funds specifically earmarked for research. In the case of the Flemish Community, the proportion of total university income coming from the BOF and IOF ("targeted institutional research grant") is highlighted separately, reflecting the fact that these funds must be used on research, unlike research components in block grants. For all jurisdictions, Figure 4.1 distinguishes external research income from the main research councils (the Research Foundation – Flanders (FWO) or the Dutch Research Council (NWO), for example), European Union research funding programmes (Horizon 2020, now Horizon Europe) and other third-party funding for research. The latter category is not recorded at the same level of granularity in the consolidated university accounts for all the jurisdictions covered and it is not possible to determine with certainty whether all the revenue in question is destined for research. Nevertheless, the data provide a reliable general overview of the scale of third-party funding for research.

The proportion of research council funding varies from around 16% in Ireland and 12% in Finland, to around 6% of total university revenue in the Netherlands and the Flemish Community. It is important to keep in mind that these are the average proportions of total revenue – representing the weight of these funding streams – not an indication of the absolute level of funding. The proportion of total university revenue from EU research funding varies between 3% in Scotland to 6% in the Flemish Community, while other external sources of research funding (from the business, non-profit or government sectors) account for 20% of average university income in the Flemish Community, 18% in Finland, 11% in the Netherlands and 4% in Ireland. The figure for Ireland may reflect the inclusion of some types of third-party funding for research in the category of "research council funding" for Ireland that are considered within "other external research funding" in other jurisdictions.

Figure 4.1. Structure of research income in universities in six OECD jurisdictions

Research income in the university sector by revenue stream as a proportion of total university revenue



Note: Proportions are taken from consolidated accounts for university sector in each system, for most recent year for which this information is currently available. The category "Targeted institutional research grant" refers to the combination of the BOF and IOF in the Flemish Community, the only system where such a mechanism exists. The category "Other external research funding" includes funding for research projects from public and private sources, as classified in national accounting systems and the category "Other funding" includes core funding for teaching, tuition fees and other institutional revenue that is not explicitly for research. Research councils: Ireland: Irish Research Council, Health Research Board and Science Foundation Ireland; Scotland: UK Research and Innovation (UKRI); Flemish Community: FWO; Netherlands: NWO; Denmark: Independent Research Fund Denmark; Finland: Academy of Finland.

Sources: Adapted from: HEA (2019[12]) *Financial Trend Analysis – Universities and IoTs 2007-2017*, Higher Education Authority; Audit Scotland (2019[13]), *Finances of Scottish universities*, https://www.audit-scotland.gov.uk/report/finances-of-scottish-universities (accessed on 20 April 2021); Flemish Government (2020[14]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019 Deel II – Universiteiten (Report on the financial situation and the evolution of staffing in higher education in 2019 – Part II – Universities)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 12 January 2021); DUO (2021[15]) *WO Gegevensboek 2015-2019 (Universities Databook 2015-2019)*, https://www.duo.nl/open_onderwijsdata/databestanden/onderwijs-algemeen/financiele-cijfers/gegevensboeken.jsp (accessed on 24 May 2021); Rathenau Instituut (2020[16]) *Ontwikkeling derde geldstroom en beïnvloeding van wetenschappelijk onderzoek (Development of the third funding stream and its influence on scientific research)*, https://www.rathenau.nl/nl/vitale-kennisecosystemen/ontwikkeling-derde-geldstroom-en-beinvloeding-van-wetenschappelijk (accessed on 6 June 2021); Universities Denmark (2021[17]) *Det Statistiske Beredskab - Danske Universiteter (University Statistics – Universities Denmark)*, https://dkuni.dk/tal-og-fakta/beredskab/ (accessed on 24 May 2021); Vipunen (Vipunen, 2021[18]) *University income statement, Vipunen – Finnish Education Statistics*, https://vipunen.fi/fi-fi/yliopisto/Sivut/Talous.aspx (accessed on 24 May 2021).

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Funding for research in non-university institutions in the five binary systems (there has been no binary distinction in Scotland since 1992) is consistently lower than in universities (see Table 3.2 in Chapter 3). Some governments, such as Ireland and Denmark, provide no grant funding specifically for research to non-university institutions as part of their core public funding. In other systems, such grants represent a small proportion of total institutional revenue, ranging from 2.6% of total revenue in universities of applied science in the Netherlands to 3% in university colleges in the Flemish Community. Of the systems analysed in depth, only Finland provides a substantial institutional allocation for research to universities of applied science, with the research component of the core grant representing over 15% of total institutional income in the sector. In all systems, non-university institutions also generate research income from a variety of external sources, including, as in Flanders, grants from public enterprise and innovation agencies and businesses.

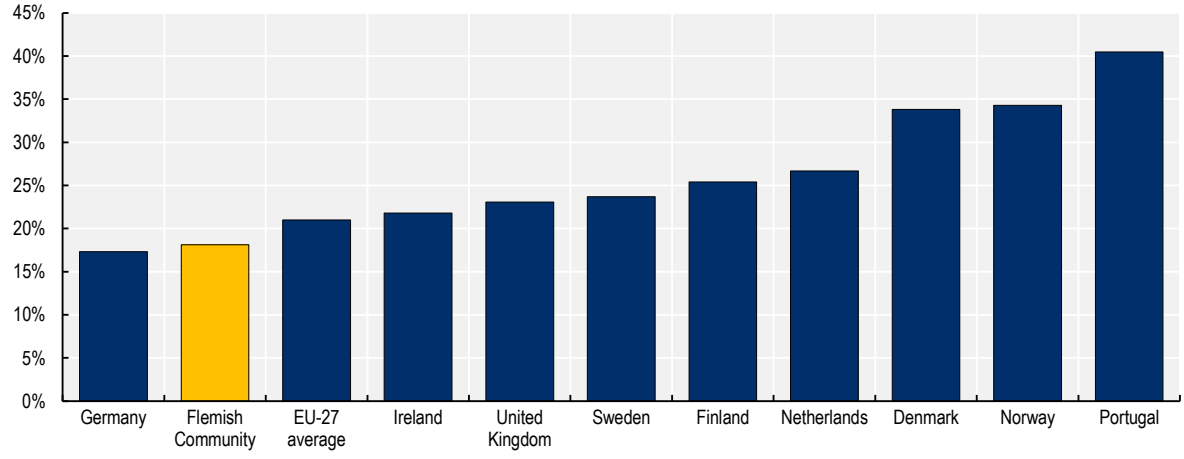
The place of higher education in the Flemish research system

The Flemish Region is one of the most research-intensive regions in Europe. In 2019, total research and development expenditure in the Flemish Region was the equivalent to an estimated 3.35% of regional gross domestic product (GDP), compared to an European Union average of 2.2% in the same year and an increase from 2.08% in 2009 (Debackere et al., 2021[19]). In 2019, the region exceeded the European Union (and Flemish Government) target of spending 3% of GDP on R&D for the first time. Around 70% of total expenditure on R&D in 2019 (EUR 6.6 billion) was spent in the business sector, which is also the sector that has seen the highest rate of growth in R&D spending in the last decade. When spending on research in Flemish higher education institutions located in Brussels is taken into account, around 18% of total R&D expenditure (EUR 1.7 billion) in 2019 occurred in the higher education sector. A further 12% of R&D expenditure was executed in the government sector, including the four Strategic Research Centres (SOCs), and the remaining 0.4% was spent within the non-profit research sector (Debackere et al., 2021[19]).

As shown in Figure 4.2, the share of total research spending (Gross Expenditure on R&D – GERD) in the higher education sector – at 18% - is lower than in many comparable European jurisdictions, although at around the same share as in Germany. This pattern reflects the high level of R&D expenditure in the business sector in Flanders, as well as the existence of large public research institutions outside the higher education sector. Expenditure on R&D in the business sector in Flanders in 2019 was the equivalent of 2.4% of regional GDP, compared to an EU-27 average of 1.46%. Spending on R&D in public research establishments outside the higher education sector represented 0.4% of regional GDP, compared to an EU-27 average of 0.25%. Leaving aside Portugal, which has invested heavily in its university research system in recent years to expand the country's relatively under-developed research system, Norway and Denmark are notable for the high proportion of total research spending that is undertaken in the higher education sector.

Figure 4.2. Proportion of total R&D performed in the higher education sector

HERD as a proportion of Gross Expenditure on R&D (2019)



Note: Data for the Flemish Community include spending on R&D in higher education institutions in the Brussels-Capital Region.
Source: OECD (2021[20]) *OECD Main Science and Technology Indicators* http://oe.cd/msti (accessed on 2 June 2021); Data for the Flemish Community: Debackere et al. (2021[19]) *Totale O&O-intensiteit in Vlaanderen 2009-2019 "3% nota" (Total R&D intensity in Flanders 2009-2019 "3% report")*, https://www.ewi-vlaanderen.be/sites/default/files/bestanden/3_nota_2021.pdf (accessed on 10 August 2021).

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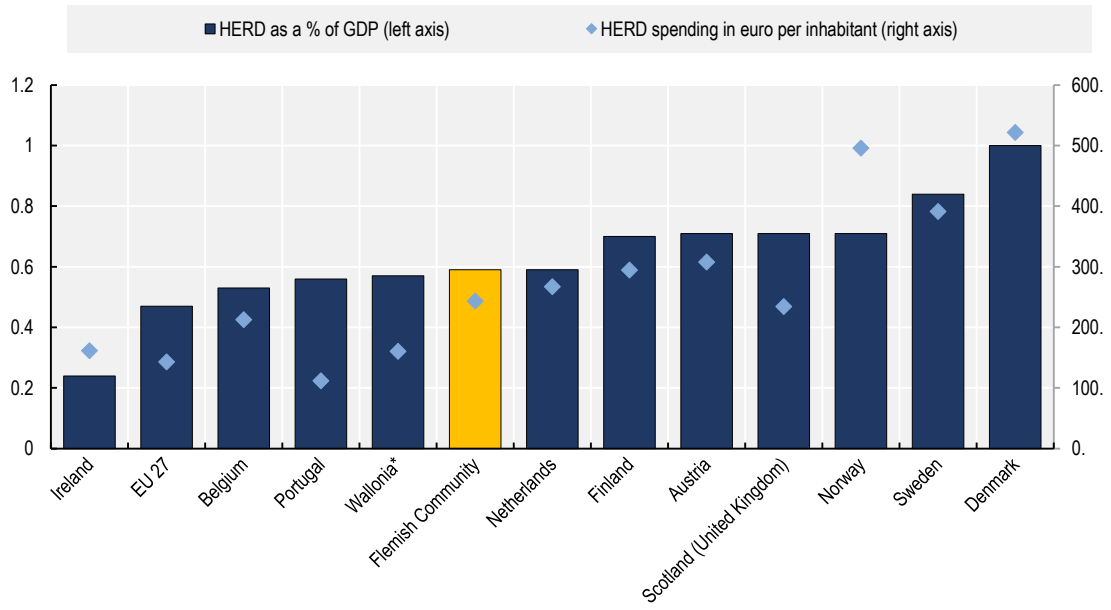
Figure 4.3. Spending on R&D performed in the higher education sector

HERD as a proportion of GDP and in euro per capita (2018)



Note: * Data for Wallonia are for 2017. Data for the Flemish Community on higher education expenditure on research and development (HERD) include spending on R&D in Flemish higher education institutions located in the Brussels-Capital Region, but are referenced to the GDP of the Flemish Region. The EU-27 refers to the 27 member states of the European Union from 2020 onwards.
Source: Eurostat, Main database, https://ec.europa.eu/eurostat/web/main/data/database (accessed on 2 June 2021); Data for the Flemish Community: Debackere et al. (2021[19]) *Totale O&O-intensiteit in Vlaanderen 2009-2019 "3% nota" (Total R&D intensity in Flanders 2009-2019 "3% report")*, https://www.ewi-vlaanderen.be/sites/default/files/bestanden/3_nota_2021.pdf (accessed on 10 August 2021).

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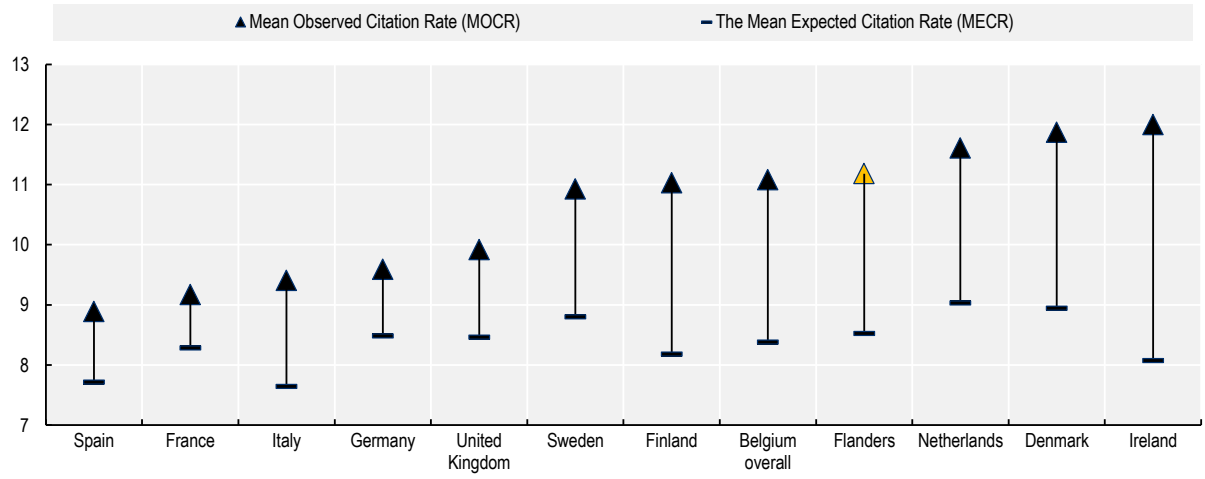
Figure 4.3 shows R&D spending in the higher education sector (Higher education expenditure on research and development – HERD) in OECD jurisdictions as a proportion of GDP and the absolute value of spending on R&D in higher education in euros per capita. This shows that spending per capita on R&D in higher education in the Flemish Community, at around EUR 240 per capita annually, is around 70% higher than the EU-27 average, but only around 80% of the level seen in Austria and Finland and less than half of the level in Denmark and Norway. Viewed as a proportion of GDP per capita, the level of spending on higher education research in the Flemish Community, at 0.6% of GDP in 2019, is around the same levels as in the Netherlands, but lower than in Finland, Austria, Scotland and the three Scandinavian countries. As noted, part of the difference between spending on R&D in the higher education sector in the Flemish Community and in comparable jurisdictions is explained by the significantly larger role in Flanders of public research establishments outside the higher education sector. In the European Union, only Germany spends a higher proportion of GDP than Flanders on research in government research establishments (Eurostat, 2021[21]). Furthermore, the most recent increases in the budget for the BOF and the Research Foundation – Flanders (FWO) are not reflected in the data on higher education expenditure shown in Figure 4.3.

Although levels of spending on R&D in higher education in the Flemish Community were somewhat lower than in other high-spending northern European higher education systems in 2018, academic research undertaken by Flemish researchers (a large proportion of which occurs in Flemish universities) performs highly on international measures of research impact. As shown in Figure 4.4, research outputs from

Flanders are cited significantly more frequently (the Mean Observed Citation Rate) than the average of all publications in the same scientific journals or publication media, achieving one of the highest observed citation rates of major European research systems. Against this measure, only Ireland, Denmark and the Netherlands achieve higher impact from their published research among the comparator systems shown.

Figure 4.4. Citation rates in Flanders and other OECD jurisdictions

Average observed and expected citation rates (MOCR/MECR) in natural and social sciences in 2017



Note: The Mean Observed Citation Rate (MOCR) is the number of citations in the three years following the publication divided by the number of publications. The Mean Expected Citation Rate (MECR) of a publication is defined as the average number of citations of all publications in the same journal in the same year.
Source: ECOOM (2019[22]) *Vlaams Indicatorenboek (Flemish Indicators Book)*, https://www.vlaamsindicatorenboek.be/ (accessed on 2 June 2021).

StatLink https://stat.link/i86b2r

4.2 How Flemish institutional funding for research compares and performs

As with the core funding model for higher education institutions, it is helpful to consider criteria that might characterise effective models for the public funding of research in higher education. In the area of research, governments and higher education institutions also look for funding approaches to fulfil a range of objectives. Among the objectives for higher education research funding most frequently cited in policy documents in OECD jurisdictions and in the literature dealing with research funding are:

1. Funding should support a diversified range of research activities, including “blue-sky”, curiosity-driven basic research, strategic research focused on societal challenges (such as climate change, for example) and applied and practice-oriented research focused on solving immediate and practical problems.
2. Funding systems should support – and perhaps promote or incentivise – high quality and impactful research in all domains. The ongoing debates about the design and actual effects of performance-based research funding (PBRF) discussed later in this chapter are directly relevant to this objective.
3. Funding from external (third party) funders of research should provide adequate funding to support legitimate overhead costs associated with running research-intensive organisations, such as higher education institutions. The growth in research projects in the higher education sector that

are funded by external public, private and non-profit organisations in recent years has raised increasing concerns about overhead recovery in many OECD jurisdictions (EUA, 2018[23]).

4. Public funding for research in higher education should provide appropriate access to resources for research to all higher education institutions and other research institutions with a relevant role in the research system. In this respect, a frequent concern is how to balance the objectives of supporting world-leading research capacity and research institutions and of promoting high-quality research across a wide range of institutions in a research system, including professionally oriented higher education institutions.

Combining findings from interviews conducted for this review and comparative analysis of models of funding research in higher education in other OECD jurisdictions, the following sections examine how the Flemish funding model performs and compares to other OECD systems in relation to the four objectives above. These sections analyse, in turn:

- How the Flemish model handles the balance between basic, strategic and applied research and whether lessons exist from international evidence on what the "right" balance might be;
- The way the Flemish system for funding research in higher education seeks to promote the quality and impact of the research funded and undertaken in the sector;
- The extent to which legitimate overhead costs in Flemish higher education institutions are covered by external research funding and the effects this has on institutions;
- The extent to which the mechanisms in place for funding research in higher education institutions in the Flemish Community provide adequate funding for the different institutions in the system.

Funding basic, strategic and applied research: finding a balance

Research types and basic allocation mechanisms for research funding

Policy discussions about how to create balanced systems of research funding frequently revolve around two related, but ultimately distinct, questions. The first is the appropriate balance between support for different types of research. As set out in Box 4.1, the main distinction traditionally used in classifying research has been between basic research, undertaken to increase the stock of human knowledge, without a specific or direct application in mind, and applied research, undertaken to solve immediate problems.

In practice, an intermediate research type is often introduced in research policy, including in the Flemish Community and in European Union research programmes (Flemish Government, 2009[24]; European Commission, 2021[25]), in the form of "strategic" or "mission-oriented" research. These terms are typically used to refer to basic research undertaken with a specific societal objective in mind (such as tackling poverty, reducing pollution or increasing the energy efficiency of buildings, for example), but where the precise application of the new knowledge to be created is not clear at the outset of the work. It is in this context that a distinction is sometimes made between curiosity-driven research, referring to basic research where the researcher or research team define the research objectives freely, and mission-driven or mission-oriented research, where the research objectives are determined – at least partly – by research strategies defined by universities, research centres, public authorities or research funding agencies.

In Flemish research policy, mission-driven research is sometimes referred to as "strategic basic research" and sometimes as "targeted" (*gericht*) research. It is contrasted with curiosity-driven, "untargeted" (*niet-gericht*) research. In the Netherlands, the term "*ongebonden*" (literally "unbound" or "unfettered") has been used in recent policy reviews to refer to curiosity-driven research, contrasted with "strategic" research that is explicitly focused on societal objectives (KNAW, 2019[26]). The level of detail in which national research funding agencies prescribe objectives for strategic, mission-oriented or targeted research varies between OECD jurisdictions. Flemish policymakers argue that Flemish government programmes to support targeted research typically allow researchers considerable freedom to specify research objectives.

The second key question for structuring public research funding is the choice of funding allocation mechanisms. Here, the question is the appropriate balance between institutional research funding, where grants are allocated directly to higher education institutions, and external competitive funding, typically awarded by research councils. Discussions on this issue are often linked to those on the balance between different types of research, based on an assumption that competitive research funding is often mission-driven and institutional funding allows more space for curiosity-driven research. While there may be some truth to this in some systems (KNAW, 2019[26]), there is no necessary correlation between the two distinctions. Competitive funding systems can provide grants for curiosity-driven research, while core research grants to higher education institutions may be used to fund institutional or departmental research strategies with clearly defined societal goals.

Box 4.1. Types of research and development: international and Flemish definitions

The OECD's Frascati Manual (OECD, 2015[27]), the main reference for international data collection on research and development (R&D), defines three types of R&D activity (which can be performed in business, higher education, government or non-profit sectors) based on the objectives of the activity:

1. **Basic research** (referred to as "fundamental research" in Dutch) is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.
2. **Applied research** is original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific, practical aim or objective.
3. **Experimental development** is systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.

The Frascati Manual also provides a classification of government budget allocations for R&D (GBARD) by socio-economic objective (SEO) that distinguishes between funds that government allocates for specific thematic areas (such as environment or transport) and funds that it allocates for the "general advancement of knowledge", without specifying a purpose or field. The latter category includes general university funds (GUF), defined as the R&D funding share coming from the general grant that universities receive from government.

In addition to the concepts of "basic" and "applied research" (defined in accordance with the Frascati Manual), the Flemish legislation governing government support for science and innovation (Flemish Government, 2009[24]) distinguishes "**strategic basic research**" (*strategisch basisonderzoek*). This is defined as "high-quality generic research that aims to build scientific or technological capacity as a basis for economic and/or societal applications that are not clearly defined at the start of the research and can only be developed through follow-up research". Strategic basic research may be considered, in the terms of the Frascati Manual, as basic research that is **targeted** at a specific socio-economic objective, rather than at the general advancement of knowledge.

Source: OECD (2015[27]) *Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development* https://dx.doi.org/10.1787/9789264239012-en; Flemish Government (2009[24]) *Decreet betreffende de organisatie en financiering van het wetenschaps- en innovatiebeleid (Decree concerning the organisation and funding of science and innovation policy)*, https://codex.vlaanderen.be/Portals/Codex/documenten/1018085.html (accessed on 4 June 2021).

The case for funding basic research is well established. Not only do future scientific advances in applied research depend on foundations laid by previous basic research (Ronai and Griffiths, 2019[28]), but high-quality basic research activity in universities is also crucial for creating conducive environments for training the next generation of researchers and delivering research-based education at undergraduate and post-graduate level (Universities New Zealand – Te Pōkai Tara, 2017[29]). The extended time horizons associated with basic research and the lack of prospects for financial returns in the short to medium-term create forms of "market failure" that mean that public investment is often the only viable option to allow such research to take place. History demonstrates that research driven by the curiosity of individual researchers, studying an aspect of physics, mathematics, psychology or philosophy, for example, purely for the advancement of knowledge, has often been behind major scientific discoveries and advances in thinking that modern societies now take for granted. Equally, however, other breakthroughs in basic research, particularly in fields such as medicine, economics, sociology or law, have been spurred by a desire on the part of researchers to solve (or contribute to solving) a particular societal challenge (Monard et al., 2018[30]).

A recent study by the Royal Netherlands Academy of Arts and Sciences (KNAW) examined the funding allocated by the Dutch Research Council (NWO) for curiosity-driven research (*ongebonden onderzoek*) in comparison to mission-driven research (*strategisch onderzoek*), with a view to advising the Dutch Government on the most appropriate policy to adopt (KNAW, 2019[26]). The advisory panel argues strongly that both types of basic research are important for a functioning research system, suggesting a 50:50 ratio in funding for curiosity-driven and mission-driven basic research. It calls for a rebalancing in the funding system in the Netherlands, with an increase in core grant funding *(rijksbijdragen*) to allow for more curiosity-driven research, pointing to the perceived success of the Excellence Initiative in Germany (BMBF, 2021[31]) in boosting curiosity-driven research, as well as the design of the most recent European Union framework programmes (European Commission, 2021[25]).

The second structural question noted above – the right balance between external competitive research funding and research grants allocated directly to higher education institutions – has also been the focus of research and analysis, although findings are mixed. Most policy-relevant reviews support the principle of open competition as a means to identify and allocate funding to excellent researchers and research. The value of existing competitive research funding systems, such as the National Science Foundation (NSF) or National Institutes of Health (NIH) in the United States, the European Research Council (ERC) in the European Union or the Research Foundation – Flanders (FWO), in supporting excellent curiosity-driven and mission-driven basic research is widely acknowledged (Monard et al., 2018[30]; Wahls, 2018[32]).

However, some analysts – generally academics themselves – have argued that competitive research systems are not as effective in selecting excellent research proposals as often portrayed and that institutional grants for research are a more effective means to promote efficient and effective higher education research systems. On the basis of a quantitative analysis of the research performance of different European higher education systems, Sandström and Van den Besselaar (2018[33]), for example, argue that researchers are motivated to produce high-quality outputs primarily by the challenge of discovery and peer recognition. They point to known disadvantages of competitive funding systems, such as the time used in submitting unsuccessful funding bids, the potential of bias and conservatism in the panels conducting the ex-ante selection of research proposals and the risk that winning prestigious grants is seen as a primary measure of success, rather than the quality of the research actually delivered. Taking into account these factors, they argue that institutional funding for research is the most efficient way of supporting high-quality research.

Other commentators have taken a more nuanced view, noting the value for researchers and research projects of having to prepare research proposals, submitting them to external scrutiny and competing nationally or internationally with the best researchers in a given field. While recently recommending an increase in institutional funding for Dutch universities, the Royal Netherlands Academy of Arts and Sciences does not fundamentally call into question the value of competitive research funding from the

Dutch Research Council (NWO) and the European Research Council (KNAW, 2019[26]). A similar line has been taken by the Royal Flemish Academy of Belgium for Science and the Arts (KVAB) (Monard et al., 2018[30]). Moreover, from an empirical perspective, the detailed design of institutional and competitive funding systems, as well as a complex set of contextual factors, including culture and history, are likely to have more impact on research quality and efficiency than the presence of particular ratios among funding streams (OECD, 2018[34]).

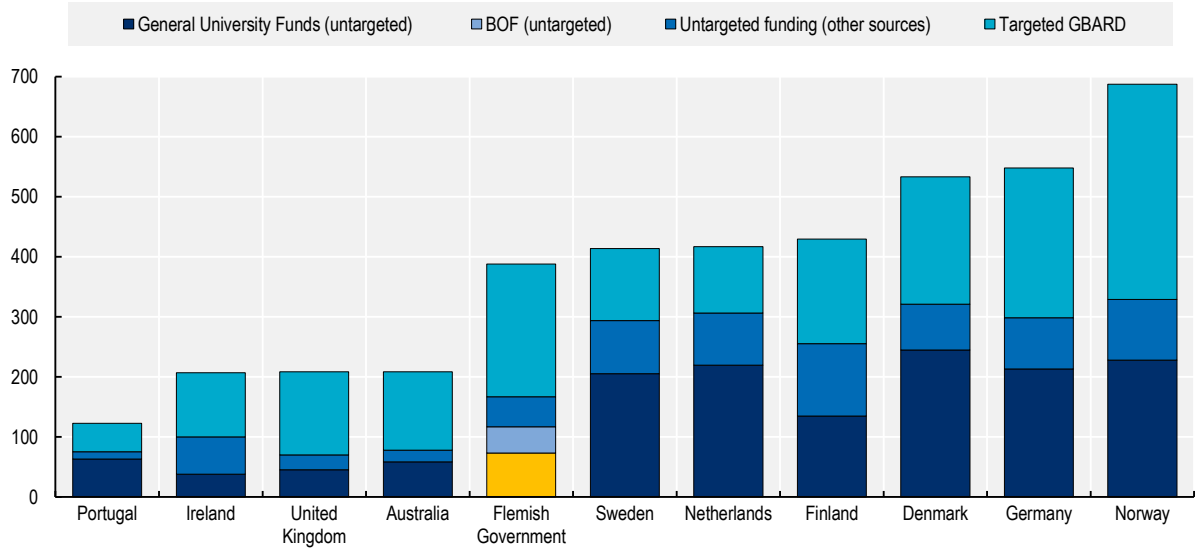
The orientation of public funding within the Flemish research system

As noted in Box 4.1, international and national data systems for R&D classify research activities by type (basic and applied) and the sector where they are performed (including higher education), while classifying government spending on R&D by socio-economic objective. Figure 4.5 provides an overview of the level of government allocations for research and development (GBARD) per inhabitant for selected OECD jurisdictions, including Flanders for the year 2019. For each jurisdiction, the figure shows the proportion of spending per inhabitant that is spent on core research grants for higher education institutions (General University Funds – GUF), the proportion that is spent on curiosity-driven (untargeted) research from other sources and the proportion that is spent on mission-driven (targeted) research.

The Frascati Manual (OECD, 2015[27]) assumes that General University Funds are allocated for the "general advancement of knowledge" – in other words for curiosity-driven basic research, without a specific socio-economic objective specified in advance. Other funding for the general advancement of knowledge (shown here as "untargeted" funds from other sources) may be allocated for curiosity-driven basic research by research councils or other research funders. "Targeted" research funding includes funds for mission-oriented basic research and applied research, linked to clearly defined socio-economic objectives, although, as noted, the degree to which public research funders specify detailed research objectives for targeted funding varies between OECD jurisdictions.

Figure 4.5. Orientation of government spending on R&D by socio-economic goals

Government allocations for research and development (GBARD) allocated to non-targeted research (General advancement of knowledge) funded from General University Funds (GUF) and from other sources, and to targeted research in USD PPP per inhabitant (2019)



Note: For the Flemish Government expenditure, the research component of the operating funds for universities makes up the majority of the "General University Funds", the BOF (highlighted separately) and a majority of FWO funding are classified as non-targeted funding from other sources and the IOF is classified, along with other targeted funding streams, as targeted GBARD. Spending per inhabitant used the population for Flanders in the reference year. A proportion of funds are spent in higher education institutions in the Brussels-Capital Region, outside the territory of the Flemish Region.

Source: OECD (2021[20]) *Main Science and Technology Indicators*, http://oe.cd/msti (accessed on 2 June 2021); Data for Flanders from Belspo (2021[35]) *Government budget appropriations or outlays for R&D*, https://www.belspo.be/belspo/stat/b32_en.stm (accessed on 2 June 2021).

StatLink https://stat.link/21wqvt

Based on the official classification of government R&D spending used by the Belgian authorities for internationally comparable data (Belspo, 2021[35]), Figure 4.5 shows that just over 40% of total Flemish government spending on R&D goes to untargeted, curiosity-driven research. Slightly less than half of this funding for untargeted research is directed through General University Funds (the research component of the operating grant), a further quarter is allocated through the Special Research Funds (BOF) and a majority of the remainder is awarded through competitive procedures by the Research Foundation – Flanders (FWO).

In terms of spending per inhabitant, when the research component of the operating funds and the BOF are combined, the Flemish government provides a similar level of untargeted core funding for research to universities as their Finnish counterparts and more than twice the level of direct grant provided to universities by governments in the United Kingdom and Ireland. In contrast, governments in Sweden, the Netherlands, Denmark, Germany and Norway provide a proportionally higher level of untargeted funding for research to universities – in the case of Denmark, more than twice the funding level per capita.

Two key factors need to be kept in mind when interpreting the international data presented in Figure 4.5. First, the underlying classification of funds as "targeted" (mission-driven) and "untargeted" (researcher-driven) is likely to vary between OECD jurisdictions and may not always reflect reality. Research funding classified as "untargeted" may not always allow full freedom to researchers to define their research

objectives. Equally, some funds which are nominally "targeted" by government or research funders may, in fact, allow considerable room for researchers to establish research objectives, within very broad parameters (such as research on climate change or energy, for example).

Second, the constellation of research-performing organisations in domestic research systems influences the level and proportion of public research funding that is directed to higher education institutions. In Flanders, public research establishments play a far more important role than most other OECD research systems, conducting research valued at around 0.4% of regional GDP annually, compared to only 0.15% and 0.12% of GDP for the equivalent sectors in Sweden and the Netherlands respectively. This structural difference is an important factor in explaining the distinctive pattern of Flemish government research spending in comparison to the patterns of government spending in Sweden and the Netherlands – two countries with very similar rates of total government R&D spending to that in Flanders.

The Flemish university sector has called for an increase in untargeted research funding from the Flemish government (VLIR, 2020[36]). It is clear that the government has an ambitious strategic research agenda linked to focus areas (*speerpunten*) defined at Flemish level, in areas such as digital transformation, health and carbon neutrality (Flemish Government, 2020[37]). This agenda informs the allocation of a proportion of the research funding provided to the four public, thematically oriented Strategic Research Centres (SOCs) and to universities through the Research Foundation – Flanders (FWO). However, there appears to be no solid evidence from the Flemish system or internationally to suggest that current levels of strategic research funding in Flanders are inappropriate or that the proportion of total public research funding for curiosity-driven research is too low. As illustrated by the discussion above, the inherent difficulty of classifying research funding as mission-driven and curiosity-driven complicates matters further and renders debates focused purely on the notional proportion of funding for one or the other type of research sterile and unhelpful.

A 2018 evaluation of public funding for basic research in Flanders (Van der Beken et al., 2018[38]), covering both the BOF and FWO funding, concluded that the mix of funding streams was generally balanced and the different research funding mechanisms are complementary. The BOF was found to allow universities the autonomy to develop their own research strategies, including in blue-sky and inter-disciplinary research, and to support young researchers in developing their research profile and skills, preparing them to compete for external FWO or European funds. At the same time, the evaluation noted that Flanders had – at that time – not yet reached its goal of spending 1% of GDP on public research funding (to contribute one-third of the 3% spending target) and argued that there was scope to direct additional funds to supporting young researchers, to promoting cooperation between universities and for pioneering, inter-disciplinary research.

In the policy position previously cited (Monard et al., 2018[30]), the Royal Flemish Academy of Belgium for Science and the Arts (KVAB) calls for higher core research funding for higher education institutions to bring spending levels in line with high-spending northern European countries (see Figure 4.5). The KVAB argues that additional resources are required to create an environment that supports young researchers to build their research portfolios. It would also allow more researchers to pursue academic careers, particularly in light of comparative high student-to-staff ratios in Flemish higher education (see Chapter 6). Somewhat in contrast, the same policy position suggests that the current funds for the Methusalem component of the BOF, which provides long-term grants for top researchers within individual universities, would be more appropriately situated at Flemish level, as a fully competitive, excellence-oriented funding stream.

Criteria for allocating research funding to higher education institutions

As noted in Chapter 3, OECD governments have increasingly introduced formula-based methods for allocating grant funding to higher education institutions. As part of this process, funding systems have often linked the allocation of the research components of core grants to universities to specific research-related metrics, including PhD graduate numbers, measures of third-party research income and bibliometric

indicators of research productivity and impact. A smaller number of OECD countries have linked allocation of institutional funding for research to the results of peer reviews of research units and departments, undertaken in the context of systematic research assessment exercises. Analyses and policy discussions relating to research funding allocation models tend to centre on three main aspects of policy design:

- the relative merits of using indicators and peer review for research assessment and funding;
- the strengths and weaknesses of different indicators in capturing research quality and;
- the positive and perverse effects of performance-based research funding (PBRF) on research productivity and quality in practice.

The use of indicators and peer review in research funding models

In a recent and comprehensive review of performance-based research funding systems in Europe, Zacharewicz et al. (2019[5]) identify three main models that are used to allocate the core institutional research grants to universities:

1. Systems with no performance elements in their models for allocating core institutional research grants to institutions. This includes systems where institutional research funding is allocated based solely on education metrics, such as student enrolment.
2. Systems where institutional core research grants are allocated based on research-related metrics for previous years. Within this group are systems that use bibliometric indicators (publications and impact indicators) in their formulas and those that rely solely on non-bibliometric indicators, such as PhD graduate numbers or research income obtained from third-party funders. Formative peer review of research-performing entities may occur in these systems, but peer review does not play a direct role in funding allocation.
3. Systems that allocate institutional research funding taking into account the results of peer-review-based assessment exercises. Here, a distinction can be made between systems that base allocations on the results of peer review that is informed by research metrics (albeit with differences between fields) and systems that allocate funding based on peer review, without reference to bibliometric data.

Table 4.4 provides an overview of the approaches to allocate core institutional research grants to universities in European countries. This illustrates that formula models using bibliometric indicators are used in ten European jurisdictions, including the Flemish Community. In the Flemish case, this applies to the formulas for both the research component of the core operating grant for universities, which takes into account publications and citations (see Table 3.1 in Chapter 3), and the formulas for the Special Research Funds (BOF) and Industrial Research Funds (IOF), which both include bibliometric indicators, albeit to a limited extent in the case of the IOF (see Table 4.2 and Table 4.3).

Austria, many German federal states and the Netherlands use PhD graduate numbers in their formula, but no bibliometric indicators. The Czech Republic, Italy, Lithuania and Portugal use peer review exercises that draw on bibliometric indicators to different extents in different fields. The United Kingdom, which has a long tradition of performance assessment in higher education research, is the only European country to rely solely on peer review for the allocation of the core research grant to universities. The UK model, first introduced in 1986, inspired the other peer-review systems in Europe and in other parts of the world, such as the system implemented in Brazil by CAPES (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* / Coordination for the Development of Higher Education Personnel).

Table 4.4. Allocation models for core institutional research grants

No performance-based research metrics	Limited performance-based research metrics	Formulas using bibliometric indicators	Peer review with reference to bibliometric indicators	Peer review without systematic use of bibliometric indicators
Bulgaria Cyprus Greece Hungary Ireland Luxembourg Latvia Malta Romania Spain Switzerland	Austria (PhD graduates + performance agreements) Germany (although variation between *Länder*) Netherlands (PhD graduates + performance agreements)	Belgium (nl) Belgium (fr) Croatia Denmark Estonia Finland Norway Poland Sweden Slovakia	Czech Republic Italy Lithuania Portugal	United Kingdom

Source: Adapted from Zacharewicz et al. (2019[5]) *Performance-based research funding in the EU Member States – a comparative assessment*, http://dx.doi.org/10.1093/scipol/scy041.

Alongside their mapping of research funding systems in Europe, Zacharewicz et al. (2019[5]) identify the most important advantages and drawbacks of the main models of performance-based research funding, based on a wide-ranging literature review (see summary in Box 4.2). In broad terms, bibliometric-based allocation systems have the advantage of their perceived objectivity and low cost, along with the comparatively low administrative burden they place on researchers. At the same time, such approaches, if not applied carefully, can easily disadvantage researchers in the humanities and social sciences, where there is a less dominant tradition of international publishing. As in the Flemish Community, some systems address this challenge through the creation of specific, domestic databases to record publications in the humanities and social sciences (see below). Bibliometric metrics are generally applied at the level of institutions, rather than departments or research groups, owing to data availability. Moreover, as discussed in later sections, the validity as indicators of research quality of the parameters used in bibliometric assessments remains contested within the scientific community and beyond.

In contrast, peer-review exercises allow a more qualitative and differentiated approach that can take into account differences between disciplines and provide assessments at the level of individual research groups. However, peer review is inherently subjective and carries the risk that research is consistently assessed in the light of dominant theories and schools of thought in a way that stifles innovation. Particularly in small research systems with languages which are not widely spoken, the pool of peers available to conduct peer reviews may be too small and too closely inter-connected to permit an objective assessment exercise, although this issue has also been a challenge in some larger systems (OECD, 2018[39]). Crucially, peer review is labour-intensive and expensive, meaning reviews can be conducted less frequently than indicator-based assessments of research output and impact.

Box 4.2. Performance-based research funding systems: strengths and drawbacks

As part of their broad survey of the design of performance-based research funding (PBRF) systems in European countries, Zacharewicz et al. (2019[5]) identify strengths and risks and drawbacks of different models of research performance assessment used for institutional research funding.

Advantages and drawbacks of different PBRF approaches

	Main advantages	Main risks and drawbacks
Peer review	• Allows qualitative assessment of aspects of research that are difficult to quantify, including innovation • Draws on specialist knowledge in each scientific field • Allows a nuanced understanding of research in context • Can perform a formative, as well as summative function (providing recommendations for improvement) • Widely accepted in the academic community	• Hard to implement in small systems where the pool of experts is small – involvement of international experts can partially solve this, but preludes assessment in small national languages • The risk of nepotism and lack of transparency • The risk of conservatism among reviewers, which may disadvantage inter-disciplinary or heterodox approaches • Resource-intensive, for assessed departments and for assessor agencies (time for reviewers and resources to coordinate the process) • Subjectivity and multiplicity of assessed impacts can reduce comparability across departments and fields • Assessment is infrequent, meaning funding decisions can be based on out-of-date information
Bibliometric approaches	• Comparatively low cost • Non-intrusiveness: researchers and administrators avoid heavy reporting burden • Perceived objectivity, with reliance on indicators of research outputs in the wider scientific community	• Assessment at departmental or research unit level requires significant investment in data collection and cleaning and is rarely performed • Research outputs in the social sciences and humanities are not fully covered in international bibliometric databases – requiring the costly development of specific databases or measures to address this • Assessment based on volume of outputs may promote quantity over quality and "publish or perish" cultures and incentivise gaming the system – although evidence is mixed • Use of journal-based indicators can favour conservatism and research that fits clearly in established disciplines, disadvantaging inter-disciplinary research

Source: Adapted from Zacharewicz et al. (2019[5]), *Performance-based research funding in EU Member States—a comparative assessment*, http://dx.doi.org/10.1093/scipol/scy041.

The choice and effects of indicators in performance-based research funding

In systems that do use bibliometric indicators to measure research productivity and impact, debates are ongoing about the strengths, weaknesses and validity of different metrics. Among the ten European systems using formulas with bibliometric indicators to allocate core research grants to universities that are listed in Table 4.4, seven apply various parameters and weightings to reflect the assumed impact value of the journals where research outputs are published. Authorities have tended to combine indicators of publication volume with journal impact weightings to introduce a proxy for the quality of publications into formulas and to reduce perverse incentives to publish in low impact (low quality) journals to boost output (Zacharewicz et al., 2019[5]). However, the use of journal impact factors has been widely criticised on the grounds that they provide an indication of the general quality of the journal, but not of individual research outputs. Notably, the 2012 Declaration on Research Assessment (DORA), signed by multiple scientists internationally, calls for research funding bodies and research performing institutions to avoid using journal impact factors in the assessment of individual scientists' research outputs or in hiring, promotion, or funding decisions (DORA, 2012[40]).

Of the same ten systems, only the Flemish Community, Croatia, the French-speaking Community of Belgium, Norway and Sweden use citations as a parameter in their allocation models. Citation data provide a more direct indicator than journal-related weightings of the impact of individual publications within the scientific community. However, some analysts argue that, while citation indicators provide a reasonable measure of the scientific relevance and impact of a research output, they fail to capture other dimensions of research quality, such as the underlying solidity of the work, its originality or its broader societal value (Aksnes, Langfeldt and Wouters, 2019[41]). In their Leiden Manifesto for research metrics, Hicks et al. (2015[42]) acknowledge the value of bibliometric data, but call on them to be used exclusively in combination with qualitative, expert assessment, arguing that "indicators must not substitute for informed judgement".

Notwithstanding the different conceptual, methodological and practical concerns about the use of peer review and bibliometric indicators in funding allocation models, the authors of recent studies concur that evidence on the effects of performance-based research funding models is mixed and often inconclusive (OECD, 2018[34]; Debackere et al., 2018[43]; Zacharewicz et al., 2019[5]). A first challenge is that it is difficult to observe reliably changes in the behaviour of researchers, research groups and higher education institutions that may result from changes to research-funding models. As Butler (2010[44]) notes in an early review of available evidence: "For every anecdote about a particular response … [to a performance-based research funding system]…, it will nearly always be possible to discover an anecdote that suggests the contrary".

A second difficulty is that incentives created by the design of the research funding system are only one of the factors that influence researchers and the research system, making it challenging to isolate the specific influence of the research funding model. The level or growth of research funding appears likely to have an important influence on research productivity and impact, for example. The swift increase in the scientific performance of the Danish university system in recent years, for instance, has coincided with sustained increases in public funding. The degree of internationalisation of a research system also appears to have a positive influence on research quality, as international co-publications are more highly cited than single-author or national research outputs. University-level policies and the degree of competition in the system are also likely to influence researcher behaviour and, ultimately, the number and quality of the research outputs they produce (OECD, 2018[34]).

Despite the uncertainties surrounding the precise influence of research funding design on research systems, there is some evidence that fears about the perverse effects of performance-based research funding systems might be exaggerated. In an analysis of the research performance of the higher education system in Australia, Van den Besselaar, Heyman and Sandström (2017[45]) found that the introduction of a new performance-based research funding model in the late 1980s was ultimately associated with an increase in both the productivity and impact of Australian higher education research. This contrasts with earlier findings by Butler (2003[46]) that suggested the new system had led to an increase in research production, but a fall in citation impact of the research produced, suggesting a focus on quantity over quality. Van den Besselaar, Heyman and Sandström argue that this initial drop in citation impact is likely to have reflected a transition phase, as Australian academics sought to publish in higher quality, international journals (Van den Besselaar, Heyman and Sandström, 2017[45]).

New approaches: towards the use of alternative indicators of research impact?

Although the perverse effects of established bibliometric indicators may be more limited than some authors have predicted, like all indicators, they have their limitations. In particular, citation indicators mostly capture the impact of research outputs in the relatively closed – and self-referential – universe of researchers in the same or related disciplines. In the last decade, interest has grown in alternative metrics ("altmetrics") as a means to capture the wider impact and use of research outputs (Khodiyar, Rowlett and Lawrence, 2014[47]; European Commission, 2018[48]). Alternative metrics measure online activity related to research outputs, which can include preprints and other identifiable documents, as well as finalised publications.

The online activities now measured by companies, such as Altmetric or Plum Analytics, include saving and bookmarking references, mentions in online content, including in the press, non-academic literature and blogs, as well as sharing on social media.

Altmetrics are typically seen as complementary to established bibliometric indicators, rather than as a replacement. Many universities now encourage staff to track the impact of their research with altmetrics, as well as traditional bibliometric indicators, particularly as altmetrics can provide faster feedback on the impact a publication has and provide an indication of impact among a wider range of audiences (Imperial College London, 2021[49]). There is some evidence that the performance of research outputs in relation to altmetrics correlates to their performance in relation to traditional citation indicators, lending weight to their potential as complementary indicators of research impact (Glänzel, Chi and Debackere, 2020[50]). However, as synthesised in Box 4.3, a number of questions remain about the validity and proper interpretation of altmetrics, which limits their current potential for use in research assessment and research funding policies. Among the most important of these limitations from a quality assurance and policy perspective is that the online attention cannot be used reliably as a proxy for quality, meaning that use of altmetrics in decisions nominally based on quality assessment would be risky and contestable.

Box 4.3. Strengths and weaknesses of altmetrics

Altmetrics provide an indicator of the online attention received by an article or other research output. In general, their advocates argue that almetrics can complement – but not replace – traditional metrics like citations by capturing interest in research that cannot be measured in a citation count.

The strengths and weaknesses of altmetrics

Main strengths	Main weaknesses
• Altmetrics can capture online references to and use of research results by people who are not active in publishing research, such as professionals, policymakers, journalists, students and the general public. • Altmetrics can provide early signs of the impact of research when it is first published (or released as a preprint), from activity on social media, blogs and news outlets. In contrast, impact on citations takes longer to filter through. • Altmetrics cover all forms of scholarly output with a unique identifier that can be tracked, not just journal articles. They can thus capture the impact of files or datasets with a DOI or preprints with an arXivID, as well as more traditional scientific publications.	• Altmetrics provide an indication of the online attention received by a research output, not of the quality of the output. Outputs can receive considerable attention because they are highly contested or criticised for valid reasons. • Online coverage of research outputs varies between fields of research. While applied medical research may readily attract attention in the press and among the public, for example, this may not be case for other fields. Specialists caution against comparing altmetrics measures between disciplines. • The algorithms used by almetrics providers (such as Altmetric or Plum Analytics) and the scores they generate are not fully transparent. • Online activity is not the same as genuine engagement with the research. Not everyone who tweets about an article, posts it on Linkedin or saves it to Mendeley has read it. Artificial activity can also be created by bot accounts or parties with a self-interest in promoting the research. • Researchers that are highly active on social media are likely to gain an advantage over those without social media accounts, without this indicating anything about the quality of the research.

Source: Based on: Imperial College London (2021[49]), *Altmetric*, https://www.imperial.ac.uk/research-and-innovation/support-for-staff/scholarly-communication/bibliometrics/altmetric/ (accessed on 3 June 2021).

To improve the range of information available on the impact of the research that they fund, research funding bodies in some OECD jurisdictions have developed dedicated online facilities in which researchers are asked to enter information about the publications, collaborations and intellectual property resulting from

their research. A relatively well-established example, originally developed by the UK research funding councils in 2013, is Researchfish in the United Kingdom (Researchfish, n.d.[51]).

In the Flemish Community, the Flanders Research Information Space (FRIS) has been created as a regional platform to gather information on government-funded research activity, researchers, business developers and research outputs directly from publicly funded research organisations (Flemish Government, 2021[52]). The platform provides a single, largely automated reporting facility for researchers in receipt of public research support and aims to simplify the reporting burden in comparison to systems previously used. The non-confidential information collected is made publicly available on the FRIS portal to increase the visibility of Flemish research and stimulate research cooperation, knowledge transfer and valorisation. The information collected also serves to monitor the impact of the publicly funded research and provide transparency for the public. From 2022 onwards, FRIS will be expanded to provide information on patents, research infrastructure and additional data on research publications.

The impact of performance-based research funding in Flemish higher education

The Flemish government linked the allocation of the Special Research Funds (BOF) to publication and citation parameters in 2003 and introduced the number of publications as a parameter for allocation of the research component of the operating grant to universities in 2008. In the period since the introduction of these mechanisms, the output and impact of research from Flemish universities has increased significantly. The number of publications in scientific journals authored or co-authored by researchers based in Flanders almost doubled from 15.7 per 10 000 inhabitants in 2006 to 28.2 per 10 000 inhabitants in 2018 (ECOOM, 2019[22]). The average number of citations per publication also almost doubled in the same period (ECOOM, 2019[22]).

Studies into the effects of the research-funding model in Flanders note this impressive improvement in productivity and impact, but like the international studies discussed above, conclude that it is impossible to dissociate the impact of the performance-based funding models from other contextual factors. In one of the most thorough examinations of the Flemish research funding model and its impacts, Engels and Guns (2018[53]) highlight the sophisticated design of the BOF allocation formula and the significant efforts made to capture publication and impact in the social sciences and humanities through the Flemish Academic Bibliographic Database for the Social Sciences and Humanities (VABB-SHW).

However, they also stress that the direct influence of the bibliometric indicators on the amount of funding individual universities receive is comparatively limited, owing to the guaranteed minimum shares of total BOF funding for the three smaller universities (see above). Moreover, they highlight the growth in public spending on research in Flanders and increase in the number of researchers in the period since the funding models were introduced, as well as a broader trend internationally towards higher rates of research productivity and citation impact. All these factors are likely to have increased research output and impact levels. While the parameters used in the BOF formula may have affected the behaviour of researchers and universities, it is not possible to prove that the increases in research output and impact would not have occurred in the absence of the performance-oriented funding system. Representatives of universities consulted for this review also stressed the strong development of institutional policies to monitor and promote research quality in the last two decades, which is also likely to have influenced the level and impact of Flemish university research.

If it is impossible to prove the direct influence of the research-funding model on research productivity and impact, it is equally hard to prove that the funding system has led directly to perverse effects, such as an excessive pressure on academics to produce research outputs ("publish or perish") or an unhealthy level of competition between academic staff and institutions. Although there are many reports that pressure on academics has increased in the last decade (Monard et al., 2018[30]), this too may result from broader changes in the environment in which academics work. As research has become increasingly internationalised, the level of scrutiny of research outputs – and probably competition between researchers

– has also increased. While, as discussed in Chapter 6, action can be taken to address unhealthy levels of workplace stress in academia, a highly performing research system is, by definition, likely to be competitive and demanding.

Notwithstanding these challenges for assessing the influence of research funding, the recent changes to the design of the BOF key appear positive. They have reduced the weight attached to productivity and citation impact, with 50% of total funds now allocated for five years based on historical funding patterns and new parameters introduced to capture and reward the distribution of citations, interuniversity and international cooperation and, ultimately (from 2024), inter-disciplinary research. The Interuniversity Special Research Funds ("iBOF") programme explicitly supports cooperation between universities. These changes, which were partly introduced in response to findings from the last evaluation of the funding model (Van der Beken et al., 2018[38]), are widely welcomed by universities and other stakeholders. Moreover, given that Flemish universities already perform well on established international research metrics, it appears coherent to focus attention on potentially neglected aspects of research quality and the promotion of innovative inter-disciplinary research.

The full economic cost of research: paying for overhead

Research projects funded by external public bodies, such as research councils, private businesses and non-profit organisations account for a substantial proportion of the research activity undertaken in higher education institutions in OECD jurisdictions (see Figure 4.1). Particularly as research council budgets have increased and higher education institutions have been encouraged and supported by policy to cooperate more actively with business and diversify their revenue streams, the proportion of total institutional funding coming from third-party sources has generally increased in recent decades. Undertaking third-party funded research requires people, space and equipment and draws on the time and resources of central services in universities and colleges. Against this backdrop, there have been growing concerns in many OECD jurisdictions that levels of third-party funding are insufficient to cover the full economic cost (FEC) of conducting the projects funded and that externally funded research projects are being cross-subsidised by other revenue, theoretically destined for teaching or other activities.

The UK's Higher Education Policy Institute has calculated that there is a "research deficit" of almost GBP 3.3 billion in non-funded costs across the UK higher education sector, for example (Olive, 2017[54]). This funding gap has traditionally been filled from surpluses generated from non-publicly funded teaching (mostly from fees charged to international students) and other income, including from consultancy and technology transfer. In Australia, a research centre found that one dollar in five spent on research comes from surpluses on teaching, with the majority of the income also coming from fees paid by international students (Norton, 2015[55]).

In systems that are more reliant on public funds, including the Flemish Community, higher education institutions generally have less scope to cross-subsidise research from genuine surpluses on other activities, meaning any shortfall in funding from third-party sources for covering the full economic costs of activities must be paid from the general institutional budget. In the Netherlands, for example, analysis has shown that research funded from external sources consumes a large proportion of the government operating grant to universities for research and puts downward pressure on budgets for teaching (Rathenau Instituut, 2018[56]; VSNU and NWO, 2020[57]). Similar frustrations are widely reported in the Flemish higher education sector (VLIR, 2020[36]).

A key concern in the Flemish context is that the rules governing competitive funding provided by public funding agencies – and notably the Research Foundation – Flanders (FWO) – place limits on the amount of indirect costs (overhead) that can be paid from research project funds. Typically, governments and research funders have sought to limit the amount of overhead costs that they fund, often based on an implicit assumption that overhead is negative and associated with waste and inefficiency. In practice, however, all well-functioning organisations require effective central and support services to manage and

administer the organisation and support staff undertaking "core business" activities. Studies in the Netherlands, for example, have found that university overhead costs are not higher than overhead costs in comparable organisations in other economic sectors (Huijben et al., 2011[58]).

Table 4.5. Typical overhead rates applied by research funders in selected OECD jurisdictions

Funding body	System	Overhead rate applied in grants
Independent Research Fund Denmark (DFF)	Denmark	44%
Science Foundation Ireland	Ireland	30%
European Union Horizon Europe Programme	European Union	25%
Irish Research Council	Ireland	20%
FWO Strategic Basic research	Flanders	17%
FWO Junior and Senior Research projects	Flanders	6%

As shown in Table 4.5, public research funding bodies in some OECD jurisdictions do include explicit allowances for indirect costs in their funding rules for research projects as does the European Union's main research funding programme. In the scope of this project, it has not been possible to undertake a comprehensive view of overhead policies used by research funding agencies in OECD member countries. Moreover, the level and role of core institutional funding for research must be taken into account when interpreting the overhead rates applied in different national contexts. In this respect, approaches vary. Some funding agencies, such as the Dutch Research Council (NWO) pay no or very low overhead contributions, based on a historical convention that the government research grant to universities should cover indirect costs (VSNU and NWO, 2020[57]). Research funding agencies in Ireland pay explicit contributions for overhead in a system where the direct public research grant to universities represents a comparatively small proportion of institutional income (see Figure 4.1). The Independent Research Fund Denmark, meanwhile, applies a comparatively high overhead rate for project funding, in a university system where the direct public research grant to universities is relatively higher in international comparison.

Although far from comprehensive, Table 4.5 shows that the overhead rates applied by the FWO in Flanders (typically 17%) are somewhat lower than those applied in other jurisdictions, including the European Union's Horizon Europe programme, which applies a rate of 25%.

A challenge for Flemish universities seeking to demonstrate the need for additional funds to cover overhead is the absence of a transparent, system-wide cost accounting model that would allow institutions to demonstrate the direct and indirect costs of different activities in a comparable way. Over the last decade, an increasing number of OECD higher education systems have adopted system-wide protocols for activity-based costing (ABC). Such protocols make it possible to identify the direct costs of different types of activity in operational units – such as departments, faculties or research centres – and to attribute indirect (overhead) costs to these activities with some degree of accuracy.

The United Kingdom was the first European country to introduce a system-wide cost accounting model for universities in 1999 (the Transparent Approach to Costing – TRAC). This resulted in part from pressure from within the university sector itself to demonstrate the costs of delivering externally funded research projects and to make the case for higher funding rates from the national research councils. The introduction of other ABC accounting systems has largely been driven by the financial reporting requirements of competitive research funding programmes, in particular the European Union's research and development framework programmes (EUA, 2018[23]). Many higher education institutions have developed their own ABC models, with varying levels of sophistication. Outside the United Kingdom, system-wide approaches, with a common set of standards, have been implemented in Ireland, the Nordic countries and the United States. Denmark has been the latest country to introduce a standardised cost accounting model in the form of the Common Chart of Accounts (*fælles kontoplan*) (Danish Ministry of Education and Research, 2020[59]).

Evidence suggests the impact of new activity-based costing models on internal resource allocation and accounting practices within higher education institutions and on public policy is generally positive. In some cases, it is clear that the introduction of new ABC models has had a profound impact on the way higher education institutions operate. In Sweden for example, the introduction of the SUHF model (for *Sveriges universitets- och högskoleförbund* – Swedish Association of Higher Education Institutions) led to the majority of institutional income being transferred to departments, which then pay a transparent unit overhead surcharge for each unit of their direct salary and operating costs. In Finland, the use of the ABC model is reported to have increased cost-awareness among staff and made the cost implications of engaging in externally funded projects more transparent (EUA, 2018[23]).

Equitable distribution of research funding in the higher education system

The final aspect of research funding policy for the higher education sector addressed as part of this review has been the extent to which all higher education institutions with the potential to contribute meaningfully to overall research efforts have access to funding to allow them to do so. In this context, two questions arise in the Flemish system: a) the allocation of funds for basic research between the five universities and b) the provision of resources for applied and practice-oriented research to the university colleges.

As noted in Chapter 2 (see Table 2.1), the Flemish university landscape consists of two large, research-intensive institutions (the KU Leuven and Ghent University) and three smaller universities in Antwerp, Brussels and Hasselt, of which Hasselt University is the smallest and most recently established. All five universities have well-developed research profiles and unquestionably generate high-quality research. However, the KU Leuven and Ghent University are ranked within the top 100 institutions in the world in the Times Higher Education and Academic Ranking of World Universities (ARWU) (Times Higher Education, 2021[60]; Shanghai Ranking, 2021[61]) and have demonstrably higher internal research capacity than the other three institutions. In such a university research environment, a potential risk could be that performance-based research funding mechanisms lead to a concentration of research funding in the largest institutions, at the expense of the smaller institutions. Over time, as research capacity in the well-funded institutions is strengthened and capacity in the less well-funded institutions develops more slowly, there is a further risk that the concentration of resources becomes more acute. This is the so-called "Matthew effect", an expression coined by Robert K. Merton (1968[62]), in reference to the biblical parable of the talents:

> *"For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath" (Matthew, 12:29).*

While this problem seems largely to have been avoided in the Flemish Community (see below), several international studies suggest that excessive concentration of research resources in a few institutions has a negative impact on the efficiency of the university research system. Based on a quantitative analysis, Sandström and Van den Besselaar (2018[33]) posit that the comparatively superior research performance (in terms of productivity and impact per capita) of the Netherlands and Sweden compared to the United Kingdom is due to a more even distribution of research resources in the university system. In the United States, Wahls (2018[32]) showed that the research productivity and impact of individual principal investigators peaked when they received a certain critical mass of external research funding (USD 400 000 annually), but declined proportionally with higher levels of funding. He argues that this calls for minimum and maximum levels of funding per researcher.

Although, as discussed above, the Flemish funding system for university research is strongly performance-oriented, the design of the funding allocation models contains specific features to ensure that smaller universities are not unduly disadvantaged and receive resources to build their internal research capacity. Firstly, within the allocation model of the research element of the core operating grant, the base funding component (*sokkel*) uses a degressive weighting system that provides a proportionally higher level of resources to universities with lower rates of publication and PhD graduate output (see Chapter 3).

Secondly, both the Special Research Funds (BOF) and the Industrial Research Funds (IOF) provide guaranteed minimum shares of the total funding to the three smaller universities. This funding model appears to be viewed positively in the Flemish university sector.

The second issue relating to the distribution of research funding in the higher education system concerns the resources for research in university colleges. The Higher Education Code makes clear that practice-oriented research is part of the core mission of university colleges (Flemish Government, 2013[63]). In 2020, the total grant to the 16 university colleges for practice-oriented research was EUR 30.2 million (Flemish Government, 2020[1]), amounting to around 3% of total university college revenue. Despite impressive efforts to develop and promote practice-oriented research in university colleges, the review interviews illustrated that this level of core research funding is widely viewed as inadequate. The current level of the institutional allocation makes it difficult for university colleges to fulfil their potential in creating high-quality research-informed learning environments and contributing to solving real-world problems in cooperation with outside partners.

University colleges in the Flemish Community also receive additional public support for research, through their participation in projects funded by the Industrial Research Funds (IOF) received by the association of which they are members. Moreover, as highlighted earlier, university colleges receive some grant aid from the Flemish Agency for Innovation and Enterprise (*Vlaams Agentschap Innoveren en Ondernemen* – VLAIO) for research projects, training and infrastructure. Defining the role of non-university higher education institutions in research has been a challenge in other OECD jurisdictions, including Ireland and Denmark. Nevertheless, it is clear that some other OECD countries – such as Finland – allocate substantially more public funds for research to universities of applied science and that these institutions have a valuable role to play in the research system. While recognising the differences between systems and institutional missions in different countries, there is scope for the Flemish Community to build on existing research capacity in university colleges and to learn from the experience of other OECD systems in terms of funding research in non-university institutions.

4.3 Policy issues and recommendations for institutional funding for research

Policy issue 1: Balancing types of research and investment

This review has examined the allocation of funding for research to higher education institutions from a necessarily broad perspective and not examined the focus and distribution of the research projects actually undertaken in Flemish universities and university colleges. Nevertheless, available information on the design of policy instruments and the distribution of research spending by type of research shows that the Flemish research funding system delivers substantial and diversified resources for research to universities. The research element of the core operating grant for universities recognises the need to support research as one of the foundations of the university system. The Special Research Funds (BOF) provide earmarked funding for basic research to permit universities to develop their research profiles, allowing institutions almost complete latitude in the internal allocation and use of these funds. The Industrial Research Funds (IOF) provide significant resources for strategic basic and applied research and promote direct cooperation between universities and university colleges, as well as between the higher education sector and businesses. These internal funds are complemented by the competitive funding system administered by the FWO and extensive contract research activities.

Given the specific role of university colleges in applied and practice-oriented research, the question – specifically raised in the terms of reference for this review – of the balance between funding in higher education for strategic or mission-oriented research and curiosity-driven research only concerns the five universities. As noted in this chapter, the evidence base for recommending a particular ratio of funding between these two types of research is weak. Moreover, national and international data that seek to

capture expenditure on the two types of research are potentially misleading because of the inherent ambiguity of the definitions used and the difficulty of classifying government spending by research type in a satisfactory manner. If there is a case to adjust the current balance between strategic and curiosity-driven research in Flemish higher education, that case must be made based on a more thorough-going analysis of research activity in universities and evidence that the current focus of resources is detrimental to particular types of research. Taking into account the limited international evidence, this review concurs with the 2018 evaluation of the Flemish research funding system (Van der Beken et al., 2018[38]) in concluding that there is no compelling reason to alter the current distribution of funds between the different funding streams for research.

The level of funding directed through these funding streams is another matter. It would be disingenuous to argue that research in Flemish universities is poorly funded in comparison to average funding levels in OECD jurisdictions. Nevertheless, as illustrated by Figure 4.3 and Figure 4.5, in absolute terms, Flanders spends less on its university research than some comparable jurisdictions, such as the Nordic countries – research systems that have some of the strongest research performance in the OECD and with which Flanders can legitimately be benchmarked. It is also clear, notwithstanding the limitations of research spending targets, that the Flemish government has not yet reached its own target of spending 1% of GDP on public funding for research and development. In 2019, Flemish government spending on research amounted to around 0.7% of GDP. When the Flemish share of Belgian federal government spending on research is taken into account, this rises to 0.8% and, when funds from European Union framework programmes are included, to 0.87% (Debackere et al., 2021, p. 21[19]). Taking into account the strong performance of the Flemish university research system against objective – if imperfect – measures of research productivity and quality and the good performance of systems with higher funding levels, increased investment in research in the sector could be justified.

Recommendations

- As the state of public finances allows, the Flemish Government can legitimately **continue to increase public funding for research in higher education,** as part of broader efforts to reach the government target of spending the equivalent of 1% of Flemish GDP on research and development from public funds (including federal and European funds).
- In line with the considerations highlighted in Policy Issue 4 below, there is a case to **increase the share of total public funding for research provided to university colleges** to enable them to develop their capacity in practice-oriented research. This might be a priority for allocation of additional funding. In the absence of a strong case for rebalancing the research funding system for universities, other available additional funding could be used to increase the resources distributed through all the main public research funding channels for these institutions.

Policy issue 2: Promoting quality and impact through research funding to universities

The methods used to allocate institutional research grants to universities and associations of universities and university colleges incorporate performance metrics with the aim of promoting the quality and impact of the research funded and undertaken in higher education institutions. The implementation of these performance-based allocation models has coincided with a substantial increase in the productivity and impact of research from Flemish universities, although the precise contribution of the funding models to these trends cannot be proven. In light of the already high level of performance observed in the Flemish university research system, the recent shift to reduce the weight of output indicators in the formula for allocating the Special Research Funds (the BOF key), as well as the introduction of more nuanced

indicators to capture cooperation and inter-disciplinary research, is positive. Given the evidence on the effects of indicator-driven funding models, it would be unwise to over-estimate the power of these new indicators to incentivise particular behaviour patterns among researchers and institutions. However, initiatives such as the Interuniversity BOF ("iBOF") to promote cooperation between universities are already bearing fruit and the design of the funding allocation formula sends a clear and positive signal to the research community about policy priorities.

Both the model for allocating the variable component of the research element of the operating grant and the BOF key seek to reward performance, but the two allocation systems use different parameters and weights. While these differences result from the historical development of the two mechanisms, there is no clear rationale for such a difference. Moreover, the existence of two systems for calculating two separate institutional allocations for research to the same five universities creates additional administrative burden, as two sets of calculations must be made each year.

More generally, both the Agency for Higher Education, Adult Education, Qualifications and Student grants (AHOVOKS) and the Department of Economy, Science and Innovation (EWI) report that the calculation of institutional funding allocations each year represents a considerable effort, but generates relatively small changes to institutional budgets. As discussed in Chapter 3, it is preferable to maintain a relatively close – and regularly reviewed – link between student-related activity and the funding institutions receive, as higher education institutions have only partial control over the enrolment and progression of students. For research, this is less clearly the case. Research strategies and employment of researchers are fully within the control of institutions. Moreover, research is a long-term activity from which outputs and impacts evolve more slowly than in education, providing further justification for a longer time horizon for funding allocations. There could be a case for making research allocations to higher education institutions for longer periods and assessing performance using the established parameters for periods of more than one year.

Recommendations

- To streamline the research funding system, the Flemish Government, in cooperation with the universities, should **analyse the impact of allocating the research component of the operating grant to universities using the same distribution parameters as for the BOF**, allowing only one distribution calculation to be made. This might mean, for example, sharing the 45% of the operating grant to universities assigned for research in the same proportions as the BOF (i.e. based on the BOF key). As well as looking at the direct financial impact of such a change for individual universities, the analysis should consider how measures could be designed to mitigate the effects of the change on the budget received by each institution.
- In due course, the Flemish authorities should **analyse the detailed effects** o**f allocating the BOF to universities, using the parameters in the current BOF key, for four or five-year periods**, aligned with the periodicity of the institutional agreements proposed in Chapter 3. The share of the BOF allocated to each university could remain constant for the same four or five-year period, as could each university's share of the research component of the operating grant. This would contribute to reducing the burden of administering the funding model. Such a move would also require the development of mechanisms to reduce the financial impact of changes in performance on individual universities when the budget level is recalculated at the end of the four or five-year period. The Industrial Research Funds (IOF) could also be allocated for the same four or five-year periods using the current allocation formula to calculate the budget level.
- To ensure accountability and transparency, particularly if there is a move to multi-annual funding, the Flemish authorities should consider requiring universities to **establish and publish institutional research strategies**, explaining priorities for investment of the public funds allocated to them for research (the research component of the operating funds, the BOF and the IOF). This should be accompanied by a summary of measures taken to ensure the relevance and effectiveness of the use of these funds. These institutional research strategies, which would build on existing institutional strategies, could be integrated into the institutional agreements proposed in Chapter 3, if this mechanism is implemented. Alternatively, they could exist as stand-alone documents.

  Institutional strategies could identify priority areas for research investment within existing research portfolios and demonstrate how institutional efforts contribute to societal challenges identified at European, Belgian and Flemish level. However, any centralised prioritisation of research activity should be sufficiently broad to allow individual researchers and research teams to tailor their research efforts to changing needs and circumstances. Moreover, strategies should also make clear how long-term, curiosity-driven research would be promoted and protected.

  Goals within institutional strategies need not be focused on traditional productivity or impact metrics: they might, for example, include allocating a higher proportion of funds to curiosity-driven research or increasing the number of cooperative research projects. Light-touch annual reporting on progress towards the goals, building on the annual reporting requirements already required by the Higher Education Code, could form a basis for ongoing dialogue between the five universities and the funding departments and agencies. Such reporting could be integrated into the broader reporting and dialogue linked to a new system of institutional agreements, if this is implemented.

Policy issue 3: Funding legitimate overhead costs and increasing cost transparency

Although it is not possible to quantify, it is clear that Flemish universities are feeling the financial consequences of an increased number of research projects and researcher positions that are funded by external partners, which has increased calls on institutional overheads. When research projects are funded by external partners with insufficient allowance for overhead costs, institutions are forced to make up the shortfall with their existing internal resources. It is important for policymakers to ensure that an ambition to increase research activity is not pursued at the expense of diverting institutional resources away from other core missions, most notably learning and teaching.

Calculations of institutional overhead should be transparent and verifiable by funding bodies, elected representatives and interested citizens. This is currently impossible in Flemish higher education due to the absence of a transparent and consistently applied activity-based cost accounting model. The experience of multiple European higher education systems in implementing such costing models has shown the value of such models for understanding and demonstrating cost structures within higher education institutions.

Recommendations

- As resources allow, Flemish authorities should take steps to **increase the overhead rates applied for resource-intensive research projects funded through Flemish external competitive public funding instruments** (notably the Research Foundation – Flanders) to align more closely with the benchmark level of 25% used in the European Union's Horizon Europe programme. Lower overhead rates may be appropriate for some types of grant, including fellowships. In revising overhead policies, it would be instructive to consult research-funding authorities in selected comparator systems to learn from their experience. As the BOF and IOF are direct grants to higher education institutions, with a pre-determined maximum budget and over which the institutions themselves have considerable control, there is no obvious case for changing the rules applying to these funds. These measures would provide appropriate recognition of the overhead costs generated by a multiplication of externally funded research projects and introduce consistency between Flemish and European funding streams for universities.
- If overhead rates are increased within external competitive public funding instruments, higher education institutions should be required to **apply the same rates for research financed by private funders**.
- To improve transparency in relation to costs and the use of funds within higher education for government and society, the Flemish higher education sector should **develop and introduce common standards for activity-based cost accounting** – initially for universities and, ultimately, for the whole higher education sector. Such a system should make it possible for higher education institutions to demonstrate the indirect costs associated with different activities in a comparable way and strengthen the case for overhead costs to be funded at a higher level in externally funded, project-based research. Common standards for activity-based costing should exploit, as far as possible, the existing cost accounting models used in universities and be kept as simple as possible in order to minimise administrative burden. However, the standards must allow the generation of reliable, transparent and comparable information. In this respect, there is scope to draw on the experience of the Nordic countries, Ireland and the United Kingdom, which have successfully introduced such systems. It is probable that additional peer learning with these systems would be valuable.

Policy issue 4: Distribution of funding across the higher education sector

As noted, the design of the allocation formulas for research funding to universities appears to be equitable and is not contested within the university sector. The question of additional funding for university research is addressed above. The model for allocating funding for practice-oriented research to university colleges, based on student enrolment is also sound, given the strong link between such research and the professionally oriented education within the university colleges. However, based on the consultations conducted for this review, it appears that the current level of core funding for practice-based research in university colleges is almost certainly too low to allow them to build their capacities in research and to fulfil their potential and their legally defined research mission.

At the same time, while individual university colleges have developed their own strategies for practice-oriented research and are taking steps to develop their internal research capacity, the review team found little evidence of a coherent Flanders-wide strategy for research in university colleges that could help to guide future investments in the sector.

Recommendations

- As a basis for further investment in practice-oriented research in universities colleges, aimed at allowing these institutions to make an even greater contribution to Flemish research efforts, the university college sector in the Flemish Community should **develop a system-wide strategy for practice-oriented research**. Such a strategy could be developed collectively by the university colleges, with support from relevant government services and stakeholder organisations and highlight priorities for capacity development and effective approaches to structuring and implementing practice-oriented research in university colleges.
- The Flemish Government should allocate a proportion of the increased public funding for research suggested in Policy Issue 1 to **increase the institutional grant for practice-oriented research in university colleges** (currently administered by the Ministry of Education and Training). This should be done in such a way as to increase both the level of funding for institutions and the share of the total public funding envelope for research allocated to practice-oriented research.
- In return for increased investment, the Flemish authorities can legitimately require university colleges to **develop institutional strategies for practice-oriented research** – in a similar way to the requirement above for universities to develop research strategies. As with universities, these institutional strategies could be integrated within institutional agreements, if this instrument is implemented, or exist as stand-alone documents.

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5 Funding for students

This chapter examines the use of public funding allocated to support students in the Flemish Community, with a focus on direct financial aid to students and on institutional funding for student services. The first section provides a brief overview of the funding mechanisms for student support that are in place in the Flemish Community. The remainder of the chapter considers how the Flemish student-funding model compares with those in other OECD jurisdictions, the impact of student aid on widening access to higher education and how the design of student aid might affect how students choose programmes and incentivise them to progress in their studies.

5.1 Funding for students in the Flemish Community

A system of study grants and tuition-fee reductions

The Flemish Government provides direct financial support to students in the form of non-repayable student grants. Grants are allocated to eligible students enrolled in recognised higher education institutions for an associate degree, bachelor's degree or master's degree, but not available to students enrolled in professional and academic specialisation programmes (*bachelor-na-bachlor* and *master-na-master*). The grants system is administered centrally by the Agency for Higher Education, Adult Education, Qualifications and Student Grants (AHOVOKS), with grants awarded to eligible students based primarily on family-income criteria. The level of grants is variable for students whose family income lies between established minimum and maximum thresholds and award criteria include both income thresholds and a points system to take into account other household factors.

The level of grants is also linked to the number of credits for which a student is enrolled. To be eligible for a grant, students must be enrolled for at least 27 credits (i.e. slightly less than half-time), with students enrolled for less than 60 credits receiving grants calculated on a pro-rata basis. Grant levels range from around EUR 270 to EUR 4 300 a year, although average annual grant awards in the academic year 2019-2020 were EUR 1 842 in university colleges and EUR 1 924 in universities (Flemish Government, 2021[1]).

Students can receive grants for a maximum of two associate degrees, two bachelor's degrees, one master's degrees and one teacher education degree. Eligibility for a grant is based on a system of "grant credit" (*studietoelagekrediet*), that largely mirrors the system of "learning credit" (*leerkrediet*) discussed earlier in the report. Every student receives a "rucksack" of 60 grant credits and a bonus ("joker") of 60 credits the first time they enrol in higher education. The number of credits for which they enrol is deducted and credits are "won back" for each credit successfully passed. At the start of their higher education career, each student starts with three "pots" of credits in their rucksack:

- 60 "starting credits", which are used in the first year of enrolment in higher education to start a programme. This pot of credits can only go down, so will be fully used up if a student enrols for a full 60 credits in their first year of higher education, for example.
- A pot for credits "won back". This has an initial balance of zero, but is credited and debited as students pass credits and enrol for new credits.
- 60 bonus credits ("*jokerkrediet*"). This is an additional, finite "pot" of credits that can only go down, which can be used, until exhausted, if a student does not have enough credits in the other pots.

The first two "pots" of the grant credit system are emptied and filled, irrespective of whether a student actually receives a grant. The system thus regulates eligibility for grants throughout a student's higher education career. The effect of the system of grant credits and minimum enrolment requirement of 27 credits is to limit the length of time a student can receive public financial support without successfully passing credits. By using the bonus credits, a student studying full time can effectively fail an entire year of 60 credits and still remain eligible for a grant. Beyond this, however, they lose eligibility for financial assistance. The grant credits system is somewhat stricter than the learning credit system, as the latter gives students a starting credit of 140 credits and doubles the first 60 credits that students pass.

Table 5.1. Number of grants awarded to students in universities and university colleges

Grant awards per institution 2017/18 to 2019/20 and proportion of total degree-seeking students in receipt of a grant in 2019/20

Institution	2017/18	2018/19	2019/20	Enrolment 2019/20	% grant recipients in 2019/20	% change 2017/19
University Colleges						
Artesis Plantijn Hogeschool Antwerpen (AP)	3 817	4 020	5 171	13 301	39%	35%
Arteveldehogeschool	3 039	3 053	3 409	12 947	26%	12%
Erasmushogeschool Brussel	1 771	1 739	2 158	5 939	36%	22%
Hogere Zeevaartschool	59	60	55	514	11%	-7%
Hogeschool Gent	3 567	3 833	3 938	14 736	27%	10%
Hogeschool PXL	2 585	2 551	3 141	8 349	38%	22%
Hogeschool West-Vlaanderen (HOWEST)	1 542	1 636	1 962	6 847	29%	27%
Karel de Grote Hogeschool	3 770	4 032	4 255	12 714	33%	13%
Katholieke Hogeschool Vives Noord	914	892	1 006	3 566	28%	10%
Katholieke Hogeschool Vives Zuid	2 238	2 289	2 697	10 014	27%	21%
LUCA School of Arts	774	843	837	2 704	31%	8%
Odisee	2 596	2 710	2 897	10 161	29%	12%
Thomas More Kempen	1 787	1 811	2 127	8 680	25%	19%
Thomas More Mechelen-Antwerpen	2 002	2 293	2 692	9 420	29%	34%
UC Leuven	1 748	1 660	1 940	8 563	23%	11%
UC Limburg	1 353	1 432	1 650	4 857	34%	22%
Total for University Colleges	**33 562**	**34 854**	**39 935**	**133 312**	**30%**	**19%**
Universities						
Katholieke Universiteit Leuven (KU Leuven)	6 109	6 201	6 434	46 853	14%	5%
Universiteit Antwerpen	3 289	3 499	3 564	17 047	21%	8%
Universiteit Gent	5 718	6 075	6 186	39 398	16%	8%
Universiteit Hasselt	876	908	942	3 802	25%	8%
Vrije Universiteit Brussel (VUB)	2 556	2 882	3 308	13 664	24%	29%
Total for Universities	**18 548**	**19 565**	**20 434**	**120 764**	**17%**	**10%**

Source: Data on study grants: Flemish Government (Flemish Government, 2021[1]); *Enrolment data for students on a "diploma contract"*, https://www.studietoelagen.be/cijfergegevens-per-onderwijsinstelling-hoger-onderwijs (accessed on 1 June 2021); AHOVOKS (2020[2]) *Hoger Onderwijs in Cijfers (Higher Education in Figures)*, https://publicaties.vlaanderen.be/view-file/39991 (accessed on 25 May 2021).

Table 5.1 provides an overview of the number receiving grants at each university college and university in the Flemish Community in the academic years 2017/18 to 2019/20 and the proportion of degree-seeking students who received a grant in each institution in 2019/20. This shows that an average of 30% of degree-seeking students in university colleges received grants in 2019/20, compared to 17% in universities. The highest proportions of grant recipients is observed in the AP University College in Antwerp (39%), the PXL University College in the northern province of Limburg and the Erasmus University College in Brussels. In all cases, these institutions serve student populations from comparatively low-income communities and, notably in the case of the institutions based in the Brussels, Antwerp and Hasselt-Genk urban areas, a high proportion of students with migrant backgrounds (Statbel, 2021[3]). With the exception of the Antwerp Maritime Academy, the lowest proportions of grant recipients are in Ghent University and the KU Leuven, the two largest research universities.

Table 5.1 also illustrates that the number of grant recipients in the university colleges increased by 19% between 2017/18 and 2019/20. This partly reflects the incorporation of associate degree programmes into university colleges from 2019 onwards and the associated influx of students from lower socio-economic backgrounds.

All students pay tuition fees to attend higher education in the Flemish Community. However, students who qualify for a grant and those who come close to qualifying for a grant pay lower fees, as shown in Table 5.2. As with other aspects of the enrolment and funding system in Flemish higher education, fees are modularised per credit unit, meaning that students are charged on a pro-rata basis for each credit they take (on top of fixed basic amounts). In comparison to other OECD jurisdictions where tuition fees are charged, the fees paid in the Flemish Community are among the lowest observed (OECD, 2020, p. C5.1[4]). Domestic students in some comparable OECD systems, including the Nordic countries, Germany and some central European countries pay no tuition fees.

Table 5.2. Tuition fees in Flemish higher education for the academic year 2020/21 (euro)

	Fixed amount	Variable amount per credit	Total annual fees for 60 credits
Students not qualifying for a grant	245.20	11.70	947.20
Students who nearly qualify for a grant	245.20	4.30	503.20
Students who qualify for a grant	111.90	0	111.90

Source: Flemish Government (n.d.[5]) *Studiegelden (Student aid)*, https://onderwijs.vlaanderen.be/nl/studiegelden (accessed on 8 June 2021).

Institutional funding for student services

In addition to the system of direct student aid, the Flemish government provides a more indirect form of support to students by allocating grants to each higher education institution to provide student services (*studentenvoorzieningen* – STUVO). The total public subsidy for student services, paid to universities and university colleges as an earmarked grant on top of the core operating grant discussed in Chapter 3 is around EUR 50 million annually. The use of the funds within higher education institutions is regulated by the Higher Education Code, although institutions and the bodies overseeing student services in each institution (the "STUVO council") have considerable latitude in the way services are organised.

The Higher Education Code states that the STUVO funds are designed to support equal access to higher education through improving basic conditions for students and reducing financial and non-financial barriers to participation. The legislation specifies that STUVO funds can be spent on six areas of activity ("fields of work") (Flemish Government, 2013, p. III.348[6]):

1. Food and catering: including student canteens and cafeterias.
2. Housing: including advice on housing, coordination of housing on the private student rental market or direct provision of subsidised student housing on or near campuses.
3. Social services: support for students who find themselves in problematic financial or social situations. Support can include additional financial assistance, guidance and counselling or childcare provision.
4. Medical and psychological services: including dedicated mental health support services and advice on accessing mainstream health services.
5. Transport: including, in some cases, additional subsidised tickets or season tickets for local public transport (in addition to those already provided to young people or students by national or regional operators).
6. Student organisations and initiatives: including support for social and cultural activities and sport. Facilities and season tickets for sports or cultural facilities can be subsidised through this line of action.

The funds for student services (*STUVO-middelen*) are allocated to higher education institutions based on their average share of enrolled credits in the five-year reference period t-7/t-6 to t-3/t-2, where "t" is the

current budgetary year – the same reference period used for calculation of the core operating grant (Flemish Government, 2013[6]).

5.2 How the Flemish student-funding system compares and performs

This section reviews the Flemish model of providing financial and other material and non-academic support to students. It focuses on three issues:

- How the design of the Flemish model of student support compares to those in other comparable OECD jurisdictions;
- Evidence on the effectiveness of student financial support systems for widening access to higher education in support of social inclusion agendas and;
- Student support mechanisms and system design features used in OECD jurisdictions to steer students' study choices and incentivise timely progression and successful completion of studies.

The design of student support systems in OECD jurisdictions

Ensuring equitable access to higher education and promoting participation and completion of higher education by individuals from disadvantaged groups are explicit policy objectives in most OECD member countries. Governments use different combinations of tools to support achievement of their goals for widened access and completion in higher education, including specific measures in quality assurance and accountability systems for higher education providers, information campaigns and financial support to students and higher education institutions (Kottmann et al., 2019[7]).

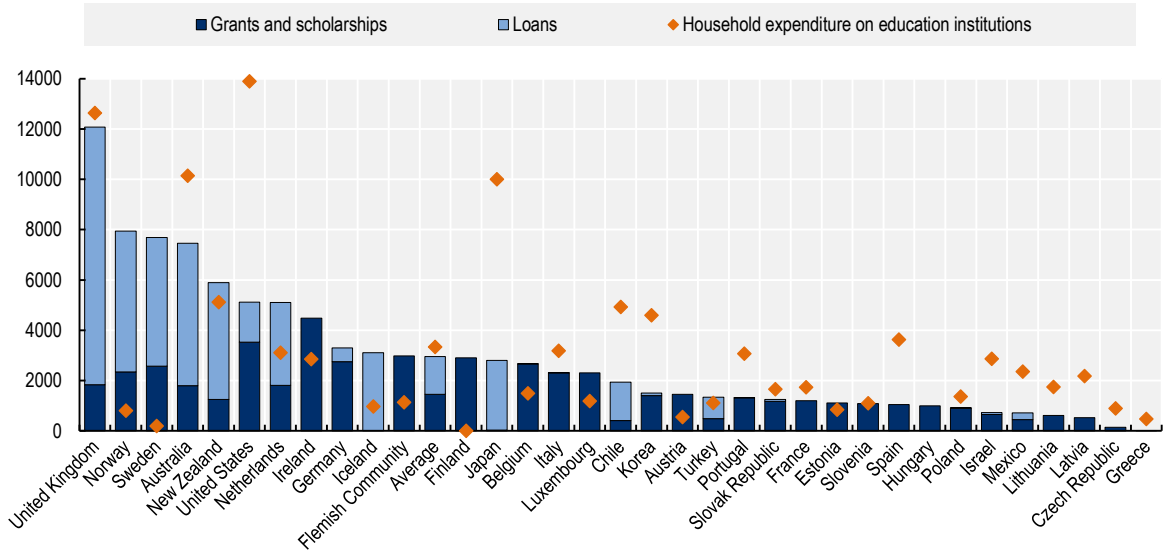
Direct financial support to students – student aid

Student aid, in the form of grants or loans, is the most frequently used financial mechanism to promote social equity goals across OECD jurisdictions. Comparable data on financial aid provided to students show that levels and coverage of grant and loan systems vary considerably between systems (OECD, 2020[4]). While Nordic states provide universal public grants and, in some cases, publicly subsidised loans to domestic students, systems elsewhere in western and southern Europe, as well as those in other OECD jurisdictions target student aid systems – with varying levels of coverage – on students from designated groups or identified financial need.

Figure 5.1 shows average public expenditure on student grants, scholarships and loans in OECD jurisdictions per full-time-equivalent student, as well as average household expenditure on higher education institutions per FTE student. Expenditure on grants and scholarships is non-repayable expenditure, whereas expenditure on loans represents the amount of government-backed funds advanced to students with the expectation that at least a proportion will be repaid. Household spending on higher education institutions encompasses tuition fees, other fees and payments for goods and services made by students and their families to higher education institutions. This is a proxy indicator for the direct costs of studying in higher education. Depending on whether or not students live in housing provided by higher education institutions, household expenditure on higher education institutions may also encompass a proportion of living costs. This is the case for parts of the higher education system in the United States, for example, where many students at four-year institutions live on campus in university residences. However, where students live off-campus, as in community colleges and open access universities in the United States and higher education institutions systems in many other OECD jurisdictions, household spending on institutions excludes nearly all living expenses.

Figure 5.1. Public spending on student aid in OECD jurisdictions

Public expenditure on grants, scholarships and loans, compared to household expenditure on higher education institutions – in USD PPP per full-time equivalent student (reference year 2015)



Note: The bar for the Flemish Community (highlighted) shows grants and scholarships only. There are no public student loans in the Flemish Community.
Source: Adapted from OECD (2019[8]) *Benchmarking Higher Education System Performance*, Figure 3.6, https://doi.org/10.1787/be5514d7-en.

StatLink https://stat.link/tojmv8

Although Figure 5.1 uses data from 2015, the main patterns shown are unlikely to have changed since. Among these patterns is the high reliance on public student loans to finance tuition fees and living costs in the United Kingdom and Australia and, to a lesser extent, New Zealand and the Netherlands. Since these data were collected, the Netherlands has increased the scope of its student loan system and reduced the scope of student grants (Eurydice, 2020[9]). Public student loans also play an important role in Norway and Sweden (and Denmark, although data are missing for these indicators in Figure 5.1). However, in these cases, loans serve to support students' living costs, as there are no tuition fees for domestic and European Economic Area (EEA) students. Public student loans are also a prominent aspect of student support in the United States, although the federal Pell grant system and various state grant programmes absorb a larger proportion of spending on student aid.

After Ireland, the United States is the country that spends the most in purchasing power parity terms per FTE student on student grants. This reflects, in particular, the role of the federal Pell grants in supporting access to education in a country with comparatively high tuition fees. Other than Norway, Sweden and Finland, with their universal grant systems, Germany and the Flemish Community (and Belgium in general) stand out as countries that spend a comparatively high amount per student on grants. The level of around USD 3000 spending per FTE student in the Flemish Community, adjusted for purchasing power parity, is consistent with the average grant rates presented above. The per-student funding level is higher because the data in Figure 5.1 use FTE students, rather than unique students, as the denominator and many Flemish students study at a lower intensity than full-time.

The United States remains the OECD country where households spend the most per student on higher education institutions, as a result of high tuition and, for some students, the housing charges discussed

above. Since the introduction of tuition fees, household expenditure on higher education institutions in the United Kingdom and Australia has risen to be the next highest in the OECD. In contrast, average household spending on higher education institutions in the Flemish Community is only 8% of the level seen in the United States and less than 40% of the level in the Netherlands.

Institutional funding for widening access and student services

In addition to direct financial support to students in the form of grants and loans, governments may also allocate funding to higher education institutions to promote social inclusion and widened access. Mechanisms used in OECD jurisdictions include regular or periodic targeted funding to higher education institutions to support access-related activities, incorporating widening access objectives in performance agreements negotiated with institutions or, less frequently, incorporating "access-related" parameters into the formulas used to allocate resources to institutions.

Governments that have introduced institutional performance agreements have sometimes required institutions to include strategies and targets related to widening access, although this is not universal in such agreement systems. Ireland has included access as a priority in its system of institutional compacts, for example. However, the relationship between performance in relation to access targets and funding is not automatic, as institutions are assessed on their overall performance in relation to compact goals and failure to meet individual targets does not necessarily lead to any reduction in funding (O Shea and O Hara, 2020[10]). In England, the Office for Students mandates institutions to prepare "Access and Participation Plans" setting out how they will "improve equality of opportunity for under-represented groups to access, succeed in and progress from higher education", but these have no direct link to funding (Office for students, 2018[11]).

As noted in Chapter 3, the Flemish Community, along with Ireland and New Zealand, among others, applies an additional weighting for students who receive a grant, students with disabilities and students who combine study and work. This 0.5 weighting is applied in the variable component of the teaching grant allocation to funding points generated by these students for enrolled credits, credits passed and degrees obtained. The objective of the weighting is to compensate institutions for the additional costs associated with supporting students from the target groups to advance in higher education. While the additional resources are welcomed by institutions, the 2015 evaluation of the funding model found limited evidence that the weighting system had led to an increase in participation from the targeted groups. The evaluation also suggested that, as with the other parameters used in the funding model, the incentives created for institutions to change their behaviour are modest (Flemish Government, 2015[12]).

The funds allocated for student services (*STUVO-middelen*), in contrast, provide targeted funding to institutions with the explicit purpose of supporting widened access and student progression and completion (Flemish Government, 2013[6]). This type of targeted funding to institutions specifically for student services appears to be comparatively unusual among OECD jurisdictions, with such services more typically funded through general institutional funding streams or, in part, through subsidies to student organisations.

The interviews undertaken for this review highlighted that student services offices in Flemish higher education institutions are well organised, with a clear sense of purpose and offer a diverse, accessible and valuable set of services to students. Representatives of student services reported increased cooperation between STUVO services and academic services in providing guidance and counselling to students in difficulty. They also noted that, in common with patterns seen in other OECD systems, there has been a generalised increase in demand for mental health support in recent years – a trend that has been aggravated by the COVID-19 pandemic – and the need for resources to cope with this demand. Many of the same representatives also argued that the current allocation method for the funding of students services – which is proportional to historical credit enrolment – fails to account for differences in student needs between institutions and the associated costs of meeting these needs. In particular, institutions with a high proportion of students from low-income backgrounds, often from families with no history of

participation in higher education and with home languages other than Dutch, considered that the current allocation system is inequitable in this respect.

Setting the level of financial support to students and measuring its effects

In designing financial support systems for students in higher education, governments generally have an interest in providing a level of financial support that is adequate to permit students with modest resources to participate and succeed in higher education, while avoiding "deadweight" expenditure that subsidises students who would have participated in higher education without the financial support. As noted, only a few OECD systems – in the Nordic countries – provide universal student grants, as part of their comprehensive and historically conditioned welfare models. In other cases, government seek – in theory at least – to target student financial aid to achieve the greatest effect in the most efficient way possible.

As discussed below, there is evidence to support the case for public investment in financial aid for students to promote increased access to higher education. However, the considerable individual financial returns to attending higher education for the average graduate (seen in most OECD jurisdictions) have been used as a justification by some governments – notably in Australia, England and the Netherlands – to replace grants systems with loans. In a context of growing demands on public funds, notably from health and personal care and school-level education, those advocating spending on student financial aid – particularly non-repayable student aid need sound arguments and evidence. Evidence-based policy-making in this area requires information on the financial needs of students and the effectiveness of financial aid policies in contributing to access goals.

Linking funding rates to financial need

In all OECD jurisdictions, the budget envelope available for public financial aid to students – and thus the level of grants that can be paid – is constrained by the overall availability of fiscal revenue and other calls on government spending. Nevertheless, governments in some OECD jurisdictions seek to align the level of the grant aid they provide to students with estimated living costs. This is notably the case in the United States. The calculation of the level of the federal Pell grant that student receive takes into account the cost of attendance (COA) at their selected higher education institution and the amount the government expects their family to contribute to this cost, based on family income (the Expected Family Contribution – EFC). The COA takes into account tuition and fees, living costs and supplies. Higher education institutions and federal authorities deduct the EFC from the COA to generate an estimated "financial need" (US Government, 2021[13]). Pell grant payments may not exceed the estimated financial need of students, but with the steep rise in tuition fees in recent decades, for many students, the maximum Pell grant no longer covers the estimated financial need, as it often would have done in the 1970s or 1980s (OECD, 2020[14]).

The theoretical link between the expected cost of study and the level of grants provided by the government in the Flemish Community is less explicit than in the United States. However, there have been analyses of the cost of study for Flemish students. A recent analysis, for example, surveyed students in Flemish higher education institutions about their living costs and calculated median study-related and living costs (De Norre, De Leebeeck and Havermans, 2020[15]). The analysis, which was drawn on survey results from 1 092 students concerning study costs and 349 students concerning living costs, found that study-related costs, including tuition fees, printing and materials, amounted to EUR 1 529 for students on professional programmes (in university colleges) and EUR 1 496 for students in universities. The median study costs for students receiving grants were lower, as a result of the tuition-fee reductions afforded to students in receipt of grants, noted above. For students living away from home, the average living costs in 2018 were estimated to be EUR 7 271 for an academic year, the largest part of which was accounted for by rent. The study found rental prices in subsidised student housing (often supported through STUVO funds) were on average around EUR 3 410 a year, compared to EUR 5 140 a year on the private rental market. Between

18% and 25% of students living away from home were estimated to live in subsidised housing, depending on the city.

Comparing prices from previous research undertaken two decades earlier, the study also found that tuition fees and rent were the main drivers of costs increases for students in recent years. As shown in Table 5.3, median tuition fees were estimated to have increased in real terms by nearly 30% for university students and 18% for university college students between 1998 and 2018, while median rental cost had increased by over 50%. In contrast, costs for printing and transport had fallen, in part reflecting reduced reliance on private cars among students.

Table 5.3. Selected study costs for students in Flemish higher education 1998 and 2018

Annual living costs - calculations using 2018 prices in euros

	University students			University College students		
	1998	2018	Change	1998	2018	Change
Tuition fees	560.99	722.98	+28.9%	503.71	593.36	+17.8%
Printing	348.39	252.91	-27.4%	283.58	251.18	-11.4%
Rent	2 829.07	4 314.05	+52.5%	2 871.14	4 333.10	+51.9%
Transport (living away from home – "op kot")	468.84	389.28	-17%	529.42	575.96	+8.8%
Transport (living at home)	776.46	654.54	-15.7%	951.64	415.39	-56.3%

Source: De Norre, De Leebeeck and Havermans (2020[15]) *Studiekosten in het hoger onderwijs (Study costs in higher education)*, http://steunpuntsono.be/wp-content/uploads/2020/09/3.3_studiekosteninhethogeronderwijs.pdf (accessed on 10 August 2021).

The median study costs above illustrate that the average student grant allocated in the Flemish Community might be expected to cover only around a quarter of the living costs of a student in Flemish higher education living away from home (see Table 5.1). Of the students responding to the survey in the Flemish cost study, 82% reported that they relied on their parents to contribute to the costs of their studies. Among university college students, 41% reported that they worked to help fund their studies, compared to 29% of university students. Overall, 30% of student respondents to the study survey reported that they had difficulties paying the costs of studying (De Norre, De Leebeeck and Havermans, 2020[15]).

Effectiveness of student support for widening access

Studies in various OECD jurisdictions suggest that means-tested grants can remove liquidity constraints for disadvantaged students and minorities, improving higher education access and outcomes. Research in the United States has shown that a rise in publicly funded grants increased educational attainment and the probability of attending college (Dynarski, 2003[16]). Grants have been also found to be an efficient means for supporting minority populations to access higher education, particularly in systems where many students fund their education with loans and debt aversion can be a real barrier to participation (Linsenmeier, Rosen and Rouse, 2002[17]). In the United Kingdom and France, maintenance means-tested grants have also been proven to be effective in increasing enrolment among low-income students (Dearden, Fitzsimons and Wyness, 2014[18]; Fack and Grenet, 2015[19]).

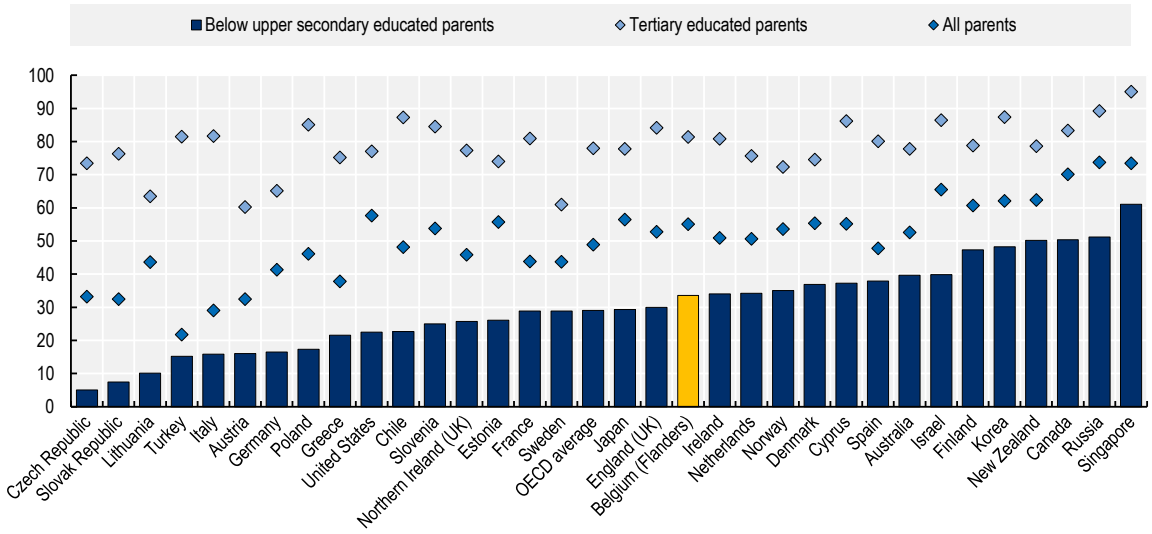
This review did not discover equivalent studies with experimental or quasi-experimental designs that have specifically investigated the impact of the system of student grants and reduced fees that exists in the Flemish Community. However, analysis by Declercq and Verboven (2015[20]) does suggest that financial barriers are not the most important factor influencing access to higher education in the Flemish Community. In a quantitative analysis, the authors investigated the influence of sensitivity to the cost of education, preferences for participation in higher education and academic ability from previous schooling on the propensity of Flemish young people to participate in higher education. After controlling for unobserved

heterogeneity, they found that preferences and acquired ability are more important than cost sensitivity in explaining lower enrolment of disadvantaged students in higher education in the Flemish Community. In other words, attitudes and "college-readiness" are more important than cost in determining whether someone from a disadvantaged background enters higher education.

Available evidence suggests that the Flemish Community performs moderately well in comparison to other OECD jurisdictions when it comes to widening access to higher education. As shown in Figure 5.2, around 35% of 25-44 year-old Flemish respondents to the OECD Survey of Adult Skills (PIAAC), conducted in 2012 and 2015, whose parents had not completed upper secondary education reported having entered higher education at least once in their life. This compares to an OECD average of less than 30% and only 17% in systems such as Germany. As in other OECD systems, individuals in Flanders whose parents had attended tertiary education were considerably more likely than average to have attended higher education themselves.

Figure 5.2. Intergenerational educational mobility

Proportion of 25-44 year-olds who have entered HE at least once in their life (independent of completion) by parental education attainment (reported in 2012 and 2015 surveys)



Note: Countries are ranked in descending order of the share of the HE access rate of 25-44 year-olds without parents with HE attainment
Source: OECD Survey of Adult Skills (PIAAC) (2012, 2015); https://doi.org/10.1515/edu-2020-0110.

StatLink https://stat.link/2ld7gx

Student support and study choice, progression and completion

Governments can use the design of student financial aid systems to incentivise progression and completion in higher education by placing time limits on eligibility for support or making successful progress a condition for continued payment of grants. This appears to be the case, with varying levels of constraint, in the vast majority of OECD student aid systems. As noted, the Flemish student-funding model encourages study progression by imposing a minimum credit enrolment threshold and making payment of grants dependent on students' having sufficient "grant credit" in their rucksacks. The Flemish system, like most core student aid systems in the OECD, does not seek to steer students in their choice of study by providing additional support for studying in certain fields, for example.

Some OECD governments have sought either to steer study choices or promote progression and completion through providing additional funding – in other words by providing bonus payments, rather than simply regulating or restricting standard student aid payments. The effectiveness of such targeted initiatives has sometimes been difficult to establish. For example, to encourage enrolment in STEM fields, a federal student aid programme in the United States, the SMART grant, provided supplementary grant assistance to about 65 000 low and moderate-income third and fourth-year students who majored in STEM fields during the 2007-2011 academic years (out of a national population of 21 million undergraduate students). Denning and Turley (2017[21]) found that income-eligible students in Texas were approximately three percentage points more likely to major in STEM fields in their junior or senior year than they would have been without the grant. However, Evans (2017[22]) found no evidence of SMART grant impacting on whether students in Ohio persisted in STEM majors or earned STEM degrees. Targeted programmes may generate significant information and application burdens on learners, limiting take-up. Behavioural effects may also be limited as learners are constrained in responding to these offers by preferences and ability.

Studies in various OECD jurisdictions suggest that supplementary student grants targeting economically disadvantaged student populations can be effective in achieving their intended outcomes. In one randomised trial implemented in the public higher education system in Wisconsin (United States), for example, low-income students received a USD 3 500 annual grant (supplemental to other student supports), renewable for up to five years, with recipients demonstrating a 21% increase in graduation rates, and a 29% increase in on-time completion (Goldrick-Rab et al., 2016[23]). Australia, Canada, and other OECD jurisdictions award targeted financial support for indigenous student populations, often as part of a wider set of equity measures or "enabling programmes" (Pitman et al., 2017[24]). Norms governing research concerning indigenous populations have channelled studies towards non-experimental methodologies (Social Sciences and Humanities Research Council, 2019[25]), and evidence of grant aid impacts in improving outcomes for these students remain limited.

In the Flemish context, the Flemish Education Council (VLOR) has called for strengthened efforts to bring students from disadvantaged populations into higher education and to support them to complete their studies. Alongside adequate funding and improved monitoring, the VLOR has called on institutions to implement diversity policies and to focus (to an even greater extent) on orientation and guidance (VLOR, 2018[26]).

5.3 Policy issues and recommendations for student funding

Policy issue 1: Funding to students to support widened access

The student grant system and related system of moderated tuition fees in the Flemish Community has been carefully designed to address the financial barriers to participation in higher education faced by students from low-income backgrounds. Evidence from a range of OECD jurisdictions shows that grants are an effective way to widen access to higher education and this is likely to be the case in the Flemish Community. The Flemish grants programme is particularly flexible in terms of the number of initial qualifications for which a student can obtain financial support, but creates incentives for study progression and completion through the system of "grant credit". The current system has broad support within the higher education sector and among student groups.

Although not sufficient to meet the full costs of study, the value of grants in the Flemish Community is comparable to that in other wealthy northern European countries and more generous than the current system in the neighbouring, and directly comparable, Netherlands, for example. Against this backdrop, there is no pressing case either to change the design of the grant system or, particularly in the face of competing calls on public funding, to make substantial changes to the level of grant payments in the short to medium term. There would appear to be scope to improve information for students about the full costs

of attending higher education. This could be achieved by developing cost and grant simulations for different student profiles, for example, which could then be published on the relevant government and institutional web pages.

In contrast, the current method for allocation of the earmarked grants for student services (STUVO) to higher education institutions merits review. Data on the proportion of grant recipients by institution confirm a significantly higher concentration of students from socio-economically disadvantaged backgrounds in the university college sector and some universities. It is reasonable to expect that these students will generate greater calls on STUVO services and thus higher costs, across multiple "work fields", than students from more affluent backgrounds. Interviewees consulted during the review also highlighted, in particular, the costs associated with providing appropriate support to students with disabilities. The Higher Education Code makes clear that a key objective of the STUVO funds is to remove barriers to participation in higher education for students most in need, rather than just to provide universal services to students (Flemish Government, 2013, p. Art. II.350[6]).

As data on both grant recipients and students with disabilities is readily available – as this information is used for calculation of core funding allocations – these data could potentially be used as parameters for allocating the STUVO funds. Adding such additional complexity to the allocation model could be justified if it led to funding responding more closely to individual institutional – and student – needs. However, it is recognised that higher education institutions have legitimate concerns about how students from different target groups are defined and the risks of institutions "gaming" the system to claim additional resources. As implementing such a change with a stable budget envelope would result in losers and winners and potentially destabilise the funding of STUVO services in the institutions that lose, a change can only realistically be made through the injection of additional funding. While the numbers of grant recipients and disabled status would appear logical variables to use in a revised allocation formula for STUVO funds, it will naturally be important to develop a revised system in close collaboration with the specialists working directly with STUVO activities.

Recommendations

- Drawing on existing cost studies and potentially taking inspiration from the US concepts of "cost of attendance", "expected family contribution" and "financial need", Flemish higher education institutions, in partnership with the Flemish authorities, should consider options for improving information for students about the full cost of study. Information resources could include simulations of the costs of attending higher education for different student profiles in different fields of study, thus complementing information on the grants system. This action would support the recommendations of the Flemish Education Council's recent advisory report on the affordability of higher education (VLOR, 2021[27]).
- As a basis for further consultations and decision-making, the Flemish authorities, in cooperation with the higher education sector, should analyse how the allocation of the STUVO funds to higher education institutions could be adapted to allocate additional funding to higher education institutions with high proportions of students with additional learning needs. The introduction of any such system would require an injection of additional funds to ensure no institution loses a significant level of annual STUVO funding.

Policy issue 2: Promoting appropriate study choice, progression and completion

There is little compelling evidence on the effectiveness of top-up grants or equivalent financial aid mechanisms on steering students in their choice of study programme. Part of the challenge of using student support mechanisms to incentivise particular study choices is that study choice in general - and appropriate

study choice in particular – depends on many non-financial factors. The interest and the aptitude of the student for particular study fields remain crucial. In an open access, low-fee system such as that in the Flemish Community, it is also unlikely that mechanisms (such as fee discounts) trialled in selective, high-fee systems in the United States would be directly applicable, even if their effectiveness in some contexts could be proven.

The current Flemish model of student financial aid does create incentives for progression and completion. An earlier recommendation in this report suggested refinement of the current system of learning credit, which appears to create too limited an incentive for students to enrol at an appropriate study intensity and work towards swift progression and timely completion of their studies. In this context, it will be important to ensure that the system of “study credit” and “grant credit” are appropriately aligned. Without more detailed data and simulations of the impact of changes to the system of grant credit, it is not possible to conclude whether the current system would require any adjustment to ensure an appropriate balance between incentivising progression and allowing leeway for some initial failure or re-orientation in study paths.

Recommendation

- As part of the review of the system of learning credit recommended in Chapter 3, the Flemish authorities should also review the system of grant credit to ensure it creates strong incentives for student progression and completion and that the two credit systems are aligned.

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6 Human resources in Flemish higher education

This chapter analyses trends and policies affecting the employment of academic staff in Flemish higher education institutions. Certain aspects of human resources policy in the Flemish higher education system – notably staff categories, employment status, salaries and retirement – are regulated by law at system level, with different regulatory regimes for the universities and university colleges. Other aspects of human resources policy, such as workload models, appraisal or professional learning, are managed by individual higher education institutions. After a short overview of the main patterns and trends in employment in the higher education sector in the Flemish Community, the chapter examines the questions of staff workload, measured through student-to-staff ratios, diversity in the higher education workforce, and initiatives to promote attractive careers for academic staff.

6.1 Policy for human resources in Flemish higher education

As a rule, academic and non-academic staff in the Flemish Community have distinct statuses and employment conditions depending on whether they work in universities and university colleges. These differences reflect the distinct missions of the two types of institution and their historical development. Whereas Flemish universities have long been autonomous entities employing their own academic staff, university colleges were historically more directly integrated into the broader education system, with their lecturers employed on similar terms to teachers in secondary education. The career structures and conditions of academic staff attached to academic programmes in Schools of Arts (within university colleges) and in the Antwerp Maritime Academy are aligned with those used in universities, although they are otherwise subject to the rules governing employment in university colleges.

Employment in universities

In universities, statutory employees are categorised as "independent" academic staff (*zelfstandig academisch personeel* or ZAP), assistant academic staff (*assisterend academisch personeel* - AAP) or administrative and technical staff (ATP). Senior academic staff (ZAP) are those in positions equivalent to the US academic ranks of professor, associate professor and assistant professor and staff in formalised "tenure track" posts for new academics. Although introduced in the Flemish system in analogy to the US model, the concept of "tenure track" and the requirements for acquiring tenure, as well as the status of holding tenure, are not directly equivalent in the Flemish and American higher education systems.

The category of assistant academic staff includes doctoral candidates, post-doctoral researchers and others specifically employed as teaching assistants. Administrative and technical staff encompasses the professional management staff in universities and various categories of support staff. In addition to mainstream academic staff, universities also employ a comparatively limited number of "teaching staff" (*onderwijzend personeel* – OP) who transferred to universities from university colleges with their academic programmes in 2013 (referred to as the "integration cohort" or "*integratiekader*"). This cohort of teaching staff is declining in number over time, as new staff recruited for the transferred programmes are employed in mainstream academic positions, under the standard university career structure. However, in 2020, transferred staff still accounted for around 540 full-time equivalent (FTE) posts in universities (VLIR, 2020[1]).

Most doctoral candidates and post-doctoral researchers – those who are not among the minority paid from university operating funds and classified as *assisterend academisch personeel* (AAP) – are together classified as "scientific staff" (*wetenschappelijk personeel* – WP). The Flemish Community has a mixed system of statuses for doctoral candidates, a minority of whom are formally employed by the universities on fixed-term contracts, in a manner similar to that seen more generally for doctoral candidates in the Netherlands or Norway. A majority of doctoral candidates have the status of research fellows and are paid through grants from research funding agencies. Both categories are included in the headcount of "scientific staff". In 2020, 72% of total scientific staff were doctoral candidates and 28% post-docs.

In 2020, there were the equivalent of over 27 000 full-time staff and researcher positions in Flemish universities. Table 6.1 shows, for the years 2012 to 2020, the numbers FTE staff of different categories employed in the Flemish university sector. It distinguishes mainstream academic staff (ZAP), assistant academic staff (AAP), researchers paid from sources other than the core operating grant (WP), administrative and technical staff paid with core university funding, and administrative and technical staff paid with external funding sources. The figures include the administrative and technical staff that transferred from university colleges in 2013, but not the transferred teaching staff, who are categorised separately as they are paid from a distinct budget line.

The data show that the number of FTE academic staff in universities increased by around 32% in the nine years to 2020, while there were slightly smaller increases, of around 25%, in the numbers of FTE

researchers and core administrative and technical staff. The number of FTE assistant academic staff increased more slowly, by only 7%. The comparatively large increase in the number of administrative and technical staff paid from external funds (+29%) reflects an increase in externally funded research and service activities. Of university staff paid from the core operating grant to universities, just over one-third of FTE positions are occupied by academic staff, 18% by assistant academic staff and 48% by administrative and technical staff.

Table 6.1. Employment in Flemish universities: 2012-20

Numbers of staff in full-time equivalents (FTE) and index of change (2012 = 100)

Year	Senior academic staff ZAP		Assistant academic staff AAP		Researchers WP		Administrative & technical staff (paid with core grant)		Administrative & technical staff (outside core grant)	
	FTE	Index	FTE	Index	FTE	Index	FTE	Index	FTE	Index
2012	2 739.82	100.0	1 819.41	100.0	9 735.96	100.0	4 139.02	100.0	3 005.70	100.0
2013	2 762.14	100.8	1 818.41	99.9	10 272.69	105.5	4 189.02	101.2	3 073.71	102.3
2014	3 007.70	109.8	1 858.71	102.2	10 929.30	112.3	4 603.76	111.2	3 182.76	105.9
2015	3 197.09	116.7	1 901.66	104.5	11 138.06	114.4	4 660.19	112.6	3 213.13	106.9
2016	3 303.07	120.6	1 896.40	104.2	11 167.41	114.7	4 693.02	113.4	3 273.04	108.9
2017	3 384.88	123.5	1 950.90	107.2	11 193.71	115.0	4 733.11	114.4	3 471.55	115.5
2018	3 444.28	125.7	1 921.20	105.6	11 497.83	118.1	4 842.35	117.0	3 559.23	118.4
2019	3 507.32	128.0	1 921.10	105.6	11 916.23	122.4	4 947.82	119.5	3 803.61	126.5
2020	3 614.92	131.9	1 952.07	107.3	12 174.48	125.0	5 168.76	124.9	3 890.08	129.4

Source: VLIR (2020[1]) *Statistische Gegevens betreffende het personeel aan de Vlaamse universiteiten – telling 1 februari 2020 (Statistical information on staff in Flemish universities – situation on 1 February 2020)*, https://vlir.be/publicaties/personeelsstatistieken/.

The vast majority of doctoral and post-doctoral researchers (scientific staff) either receive grants from their funding bodies or are employed by the universities on fixed-term contracts. Assistant academic staff and most administrative and technical staff employed using third party funds are employed exclusively on fixed-term contracts, while administrative and technical staff paid out of the core operating grant can be employed on fixed-term or permanent contracts.

As a rule, senior academic staff (ZAP) are employed on permanent contracts. However, new senior academic staff can be employed for a period of up to three years on a fixed-term contract, after which, subject to a positive evaluation, they must be given a permanent appointment. Universities can subsequently decide to give academic staff paid out of the core operating grant statutory permanent contracts under public law – a process referred to as “permanent appointment” (*vaste benoeming*). For institutions, this has the advantage that social security costs are then borne by government, rather than the institution. As noted, although the US concept of “tenure” is sometimes used to refer to this status in English, permanent appointment is a concept used more widely in the public sector in Belgium and so does not have exactly the same meaning as tenure in a North American context. Tenure track positions are five-year posts, at the end of which, again subject to a positive evaluation, the holder is permanently appointed with the grade equivalent to associate professor (*hoofddocent*). The salaries for all positions are fixed in relation to central salary scales, established in the Higher Education Code (Flemish Government, 2013[2]).

Employment in university colleges

Senior teaching staff working in professional programmes in university colleges, (Group 1 *onderwijzend personeel – OP1*) have the title lecturer or senior lecturer (*lector* or *hoofdlector*) or “practice lecturer” or

"senior practice lecturer" (*praktijklector* or *hoofdpraktijklector*). The former categories require a master's degree, the second only a bachelor's qualification. Senior academic staff working on academic programmes in the Schools of Arts (which are integrated into university colleges) and the Antwerp Maritime Academy (Group 3 *onderwijzend personeel* – OP3) use the academic ranks used in universities. In addition, assistant academic staff (Group 2 *onderwijzend personeel* – OP2) are employed in both professional and academic programmes.

In 2019, there were the equivalent of 7 600 full-time teaching staff employed in the 16 university colleges, along with around 3 300 FTE administrative and technical staff (Flemish Government, 2020[3]). As a significant minority of teaching staff work part-time, the number of individual lecturers is higher than the full-time equivalent figure. All categories of staff in university colleges are employed on contracts under public law, with their salaries established with reference to a specific set of salary scales for university colleges also established in the Higher Education Code. Teaching staff are initially engaged on fixed-term contracts, typically then progress to indefinite contracts and then, subject to further positive evaluations, may be made permanent (*vast benoemd*) in a similar way to academic staff in universities and public sector employees in Belgium more generally. Each university college has its own regulations governing career progression, within the broad framework established at Flemish level. As noted, staff in academic programmes in the Schools of Arts and in the Antwerp Maritime Academy are employed under the salary conditions and career structures for university academic staff.

6.2 How human resources policies in Flemish higher education compare and perform

Taking into account the questions posed by the Flemish advisory group at the outset of this review and the issues that emerged during discussions with representatives of higher education institutions, staff and other stakeholders, the remainder of this chapter focuses on three topics related to human resources in Flemish higher education and where particular concerns have been reported:

1. The first section considers the workload of academic and teaching staff in higher education and, in particular, the student-to-staff ratios observed in the Flemish Community compared to those seen elsewhere in the OECD;
2. The second section considers the question of promoting diversity – and notably gender balance – in the academic workforce, focusing on actions that are being taken to further this goal in the Flemish higher education system and elsewhere and;
3. The final section examines approaches to supporting junior researchers to manage their careers and strategies for creating positive working environments in academia, including opportunities for professional development.

Student-to-staff ratios in Flemish higher education and other OECD jurisdictions

Teaching, supervising and guiding students is the primary role of lecturers in university colleges and a core component of the jobs of academic staff in universities, alongside their responsibilities in research. The way staff interact with students, through lectures, seminars, practical work, supervision of projects and dissertations, and the more general guidance and orientation they provide, are an essential determinant of the quality of the learning experience in higher education. In this context, the ratio between the number of students in a class or higher education institution and the number of staff actively involved in teaching, is often taken as a proxy indicator of the level of student-staff engagement and the potential quality of the student learning experience.

Equally, student-to-staff ratios may provide an indication of the workload of teaching staff, given that a higher number of students per staff member implies, for each staff member, greater demands for individual

support from students and more assignments and examinations to assess. However, indicators of student-to-staff ratios can be challenging to calculate and to interpret. Firstly, there is no pre-determined "ideal" student-to-staff ratio that is required to ensure high-quality interaction between students and staff and appropriate ratios certainly vary between fields of study. Disciplines with a strong practical component, notably in certain professional disciplines, sciences with laboratory work, music and the visual and performing arts, nearly always require smaller class sizes than fields such as maths, economics or history.

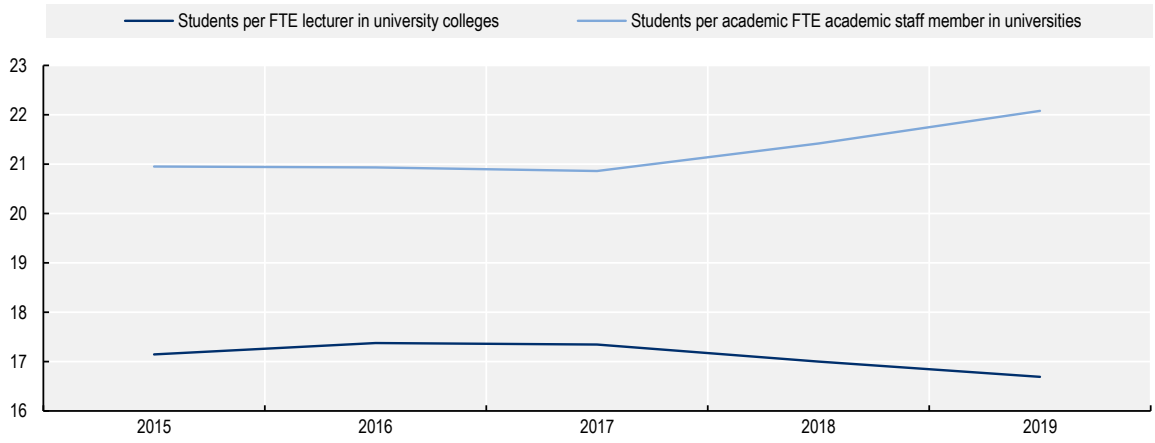
Secondly, conventional measures of both student and staff numbers create interpretation challenges. In flexible higher education systems, such as that in the Flemish Community, where students study at different levels of intensity (enrolling for different numbers of credits), the number of unique students will be higher than the number of FTE students. However, the amount of time and effort required to support each student does not decrease proportionally with their study intensity, particularly as part-time students frequently come from populations that tend to require additional help. It may therefore be misleading to rely entirely on measures of FTE students as an indicator of student-related workload for staff.

On the staff side of the equation, the challenge arises from a difficulty of measuring how much time staff dedicate to teaching. This is classically a problem for interpreting student-to-staff ratios in universities, where all academic staff are assumed to conduct research and some dedicate a large proportion (or all) of their time to non-teaching activities. In particular, a significant proportion of academic staff in many OECD university systems may have a limited or no role in undergraduate teaching. However, even in less research-intensive institutions, such as Flemish university colleges, teaching staff are engaged in practice-oriented research, service and administrative tasks alongside teaching, which can have a significant impact on the amount of time they spend teaching and interacting directly with students.

Against the backdrop of these methodological challenges, Figure 6.1 presents the ratio of unique, degree-seeking students to full-time equivalent academic or teaching staff for Flemish universities and university colleges for the period 2015 to 2019.

Figure 6.1. Ratio of unique students to FTE teaching staff in universities and university colleges

Number of unique students enrolled for a "diploma contract" per FTE lecturer or academic staff member (2015-19)



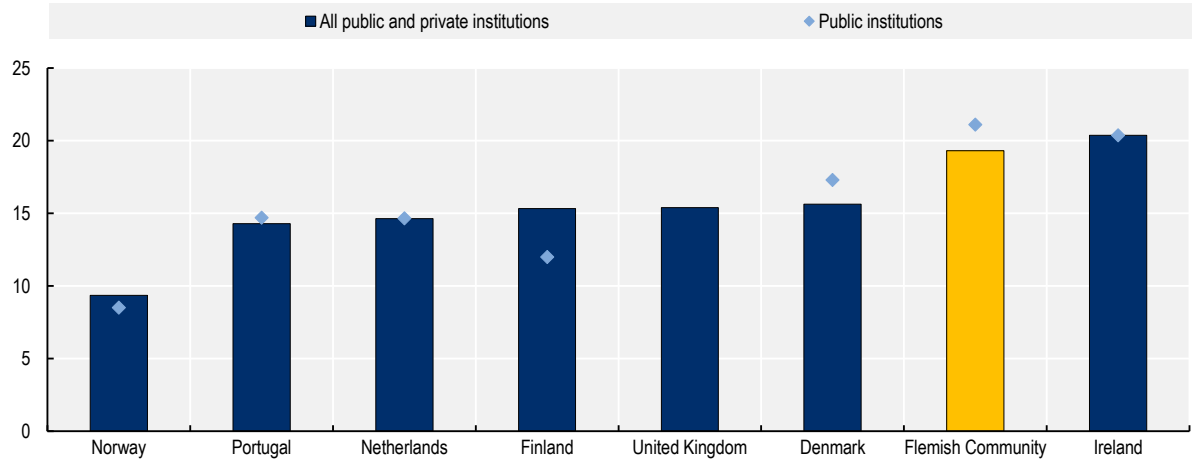
Note: Academic staff in universities include senior academic staff (ZAP), assistant academic staff (AAP) and legacy teaching staff (OP) posts transferred from university colleges.
Source: Flemish Government (2020[3]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs - Deel I: Hogescholen (Report on the financial situation and the evolution of staffing in higher education - Part 1 University Colleges)* https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 16 January 2021); Flemish Government (2020[4]) *Verslag over de financiële toestand en de evolutie van het personeelsbestand van het hoger onderwijs in 2019. Deel II - Universiteiten (Report on the financial situation and the evolution of staffing in higher education - Part 2 Universities)*, https://www.vlaanderen.be/publicaties/verslag-over-de-financiele-toestand-en-de-evolutie-van-het-personeelsbestand-van-het-hoger-onderwijs (accessed on 12 January 2021).

StatLink https://stat.link/fz3rpe

Figure 6.1 illustrates that the number of unique degree-seeking students per staff member remained at around 17 in university colleges in the five-year period shown, while it increased from around 21 to 22 in universities. The figure shows the result of calculations using unique degree-seeking students, rather than full-time equivalent students, as the numerator. This generates a valid indicator of demand on staff time for the reasons noted above, but one that does not account for variation in students' study intensity. Using a measure of full-time equivalent students would result in somewhat lower numbers of students per staff member. The use of unique students, rather than FTE students, also means apparent changes in the student-to-staff ratio may reflect changes in average student study intensity and must therefore be interpreted with caution. Using aggregated data such as these also masks differences in student-to-staff ratios between institutions and fields of study. The general pattern of lower student-to-staff ratios in university colleges reflects the high proportion of practically oriented programmes in these institutions, including those in Schools of Arts.

International data on student-to-staff ratios are subject to the same caveats as apply to interpretation of national data. In addition, there is likely to be even more variation in the proportion of time academic staff dedicate to teaching between countries than within a single system. Moreover, while clear international guidelines for reporting exist, it is also probable that differences in the way countries classify academic and teaching staff posts will affect the numbers of FTE staff that they report to the OECD, UNESCO and Eurostat. Figure 6.2 presents the ratios between the total numbers of FTE academic staff in higher education (i.e. in universities and non-university institutions) and the total numbers of FTE students enrolled in eight comparable OECD jurisdictions, including the Flemish Community, for the year 2018.

Figure 6.2. Ratio of FTE students to FTE teaching staff in OECD jurisdictions (2018)



Source: OECD (2021) Education at a Glance database, https://stats.oecd.org. Data for Flemish Community supplied by Flemish authorities.

StatLink https://stat.link/82dpyb

The international data show an average ratio of just over 19 FTE students for each FTE academic or teaching staff member in the Flemish higher education sector in 2018. This compares to an average of 15.2 FTE students per academic or teaching staff member in 2018 in the 28 OECD jurisdictions for which data are available (OECD, n.d.[5]). Of European OECD members, only Ireland (shown) and Italy have higher ratios of FTE students to FTE staff member (at respectively 20.4 and 20.3 FTE students to FTE staff member). Examining the data on academic staff also reveals that the Flemish higher education system has a comparatively low number of academic staff in relation to the population it serves, at around 1 825 FTE academic and teaching staff per million population in 2018 (using the population of the Flemish Region as the numerator). This compares with around 1 890 FTE academic staff per million inhabitants in the United Kingdom, 2 700 FTE per million in Finland and around 3 200 per million in the Netherlands and Denmark (OECD, 2020[6]). These differences may be influenced to some extent by differences in the categorisation of academic staff, although this influence is likely to be modest, as international data manuals provide clear definitions of the level of academic posts to be included and specify that "academic staff" should be involved in teaching (and not simply be researchers).

Diversity in the academic workforce

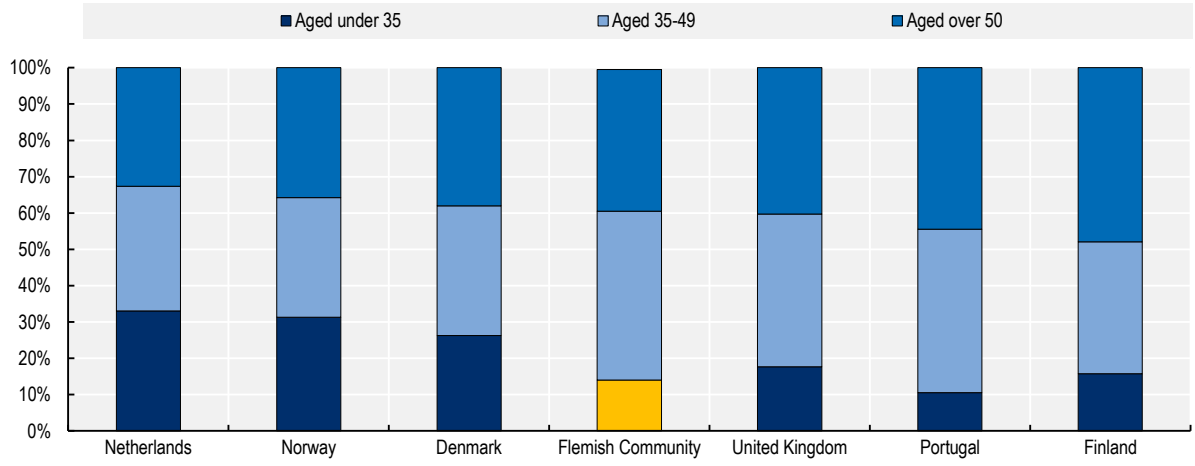
Ensuring that academic workforces reflect – or at least better reflect – the composition of the population in the jurisdictions they serve is a stated policy priority in many OECD member countries (OECD, 2020[7]). In many countries, the academic profession has historically been disproportionately male and had a poor record in integrating members of minority population groups. As time passes and the profession is renewed, opportunities arise to enhance the representativeness of the academic workforce through careful recruitment and promotion practices.

As shown in Figure 6.3, around 40% of the academic workforce in the Flemish Community (ZAP, AAP and OP) is over 50 years old – a higher proportion than in the Netherlands (33%), but significantly less than in Finland (nearly 50%). International data suggest that only 14% of the academic workforce in the Flemish Community is under 35, the second lowest percentage of the seven comparable jurisdictions shown below, after Portugal. These data are based on robust international data collections, but must be interpreted with care, as the involvement of junior academics, such as post-docs, in teaching may vary between jurisdictions. It is likely, for example, that a higher proportion of junior academics in the Netherlands,

Norway and Denmark have teaching responsibilities and are considered as academic staff than in the Flemish Community, leading to a higher proportion of such staff being included in the international data submissions. Doctoral candidates and post-doctoral researchers employed in Flemish universities do not automatically have a role in teaching. Where they do so, they are employed and counted as assistant academic staff (AAP).

Figure 6.3. Academic staff by age category (2018)

Percentage of total academic staff in each age category



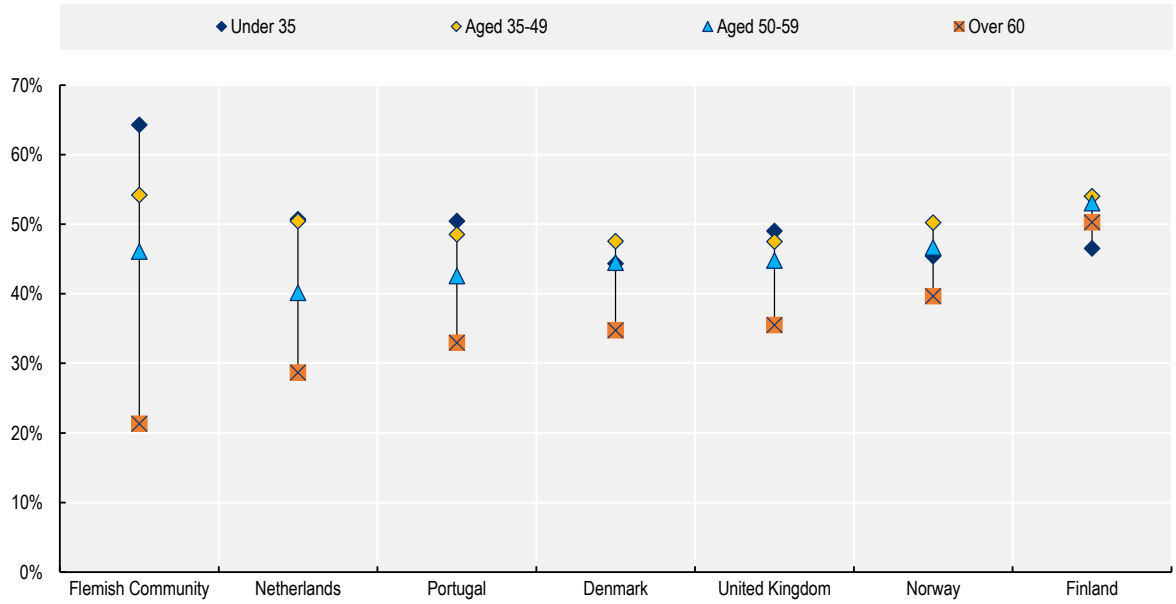
Source: OECD (2021) Education at a Glance database, https://stats.oecd.org.

StatLink https://stat.link/slb9op

In terms of gender, less than 30% of senior academic staff (ZAP) and only 44% of researchers (WP) in Flemish universities in 2019 were women. In contrast, 57% of lecturers in university colleges in the same year were women (VLIR, 2020[1]; Flemish Government, 2020[3]). As illustrated in Figure 6.4, the proportion of female academic staff in the higher education system (covering both universities and non-university institutions) varies more strongly by age category in the Flemish Community than in comparable OECD jurisdictions. Whereas 64% of all academic staff aged under 35 in the Flemish Community are women, the proportion falls to 46% among those aged 50 to 59 and 21% for those over 60. This pattern suggests that higher education in the Flemish Community has become increasingly more female, but equally that a very high proportion of the most senior posts in academia are occupied by men. This is confirmed by Flemish data, which show that only a quarter of senior academic staff (ZAP) aged over 45 are women (Flemish Government, 2020[8]).

Figure 6.4. Proportion of women among academic staff by age category (2018)

Headcount (persons), proportion of academic staff in each age category who are women



Source: OECD (2021) Education at a Glance database, https://stats.oecd.org.

StatLink https://stat.link/e1yksj

The pattern in the Flemish Community contrasts with that seen in comparable OECD jurisdictions, where there are higher proportions of women among academics aged over 60 and higher proportions of men among teaching and academic staff aged under 50. It appears likely that other jurisdictions were historically more successful than the Flemish Community in achieving a (more equal) gender balance in the academic workforce. In light of the international and Flemish data, it also appears that the Flemish Community has improved gender diversity among younger age cohorts, but with a potential under-representation of men among younger teaching staff in the university colleges and a persisting under-representation of women among young academic staff in universities.

The Flemish higher education sector has taken steps to address this situation. As discussed in Chapters 3 and 4, the formulas for allocating the research element of the core grant to universities and for the Special Research Funds (BOF), both reward institutions for the appointment of female academic staff, although, as also discussed, the direct influence of these parameters on institutional behaviour is hard to establish. The five Flemish universities themselves adopted Gender Action Plans in 2014 to boost the number of women entering and pursuing successful academic careers. In 2019, in recognition of modest progress in achieving gender equality, the Flemish universities and the Flemish association of young researchers (*Jonge Academie*) adopted a new Charter on Gender in Academia (VLIR and JA, 2019[9]), setting out five action lines to promote a better gender balance in the university system. The actions include training for staff on gender and implicit bias, strengthening guidelines for recruitment, targeting at least a 40:60 ratio of genders on official bodies and committees, promoting a gender-positive working environments and more systematic and transparent monitoring.

Some European countries, including Germany and Denmark, have incorporated explicit obligations in their national legislation governing higher education for higher education institutions to promote gender equality and report regularly on progress. These legislative obligations go beyond mainstream equality legislation

in both jurisdictions. In addition, research funding agencies have implemented specific grant programmes to support female researchers and academic staff, notably in Germany and the Netherlands, as highlighted in Box 6.1.

Box 6.1. Funding to promote gender equality in academia in Germany and the Netherlands

Germany

Since 2008, the Programme for Female Professorships (*Professorinnenprogramm*) has aimed to increase the proportion of women in post-doctoral positions and increase female presence at all qualification levels (BMBF, 2020[10]). The programme is an initiative of the Joint Science Conference (*Gemeinsame Wissenschaftskonferenz* - GWK) (GWK, 2021[11]). The Conference is a governmental organisation coordinating the scientific funding in Germany. For a university to qualify for participation in the funding programme, the institutions need to present university-level gender equality initiatives that are externally evaluated. Once accepted, universities can apply for the funding of up to three positions for female professors for five years. By November 2019, 570 appointments of female professors had been supported through the programme. Additionally, the programme's success has promoted the implementation and strengthening of institutional structures that promote gender equality within institutions (BMBF, 2020[10]).

The Netherlands

Since 1999, the Dutch Research Council (NWO) has awarded the Aspasia grant to university executive boards that promote female candidates to the position of associate professor or full professor (Dutch Research Council, 2021[12]). In parallel, the Dutch Network of Women Professors attempts to foster the proportionate representation of women in academia, and especially at professor and associate professor level (LVNH, 2021[13]). Since 2001, 1 400 female professors and associate professors have joined the network. By providing mentoring and guiding women in relation to grants, fellowships, tenure tracks, and prizes, the Network also has a particular focus on helping early-stage researchers to stay within academia.

Promoting rewarding academic careers

The Flemish higher education sector has been less affected by the shift to employing academic and teaching staff on comparatively precarious temporary and fixed-term contracts than systems in some OECD jurisdictions, such as the United States (OECD, 2020[7]). As noted in the introductory section to this chapter, after an initial trial period, academic staff in universities and university colleges in Flanders are typically employed on well-protected indefinite contracts and the number of "assistant academic staff" has not increased disproportionally in recent years (see Table 6.1). The relatively high labour costs in Belgium are almost certainly one of the explanations for the comparatively higher student-to-staff ratios in the Flemish Community. As in other higher education systems, an expansion of doctoral education and an increase in external funding for post-doctoral positions has led to an increase in the number of junior researchers working in universities over the last two decades. As the number of permanent academic posts – and openings to enter them – remains limited, only a fraction of those who complete a PhD or even a post-doc will actually enter academia. Competition for permanent academic positions in the Flemish Community, as in other OECD jurisdictions, is intense.

At the same time, those who do enter higher education are being called upon to work in new ways. In the area of teaching, the COVID-19 pandemic, which led to a forced transition to online instruction in Belgium, as across the globe, revealed the weaknesses of existing digital infrastructure in higher education and the challenges of translating existing learning content and teaching methods to remote and blended formats.

The pandemic has also intensified the worldwide debate about the most appropriate ways to integrate the best aspects of digital learning into mainstream higher education, as students return to campus. To engage with such developments, academic staff will need to hone skills that have not traditionally been part of academic training. In parallel, in the area of research, pressure to deliver publishable research outputs remains intense in Flemish higher education, as in other advanced research systems. Although pressure to perform and deliver high-quality research are inherent to life in an increasingly internationalised academic community, excessive pressure can naturally have negative effects on the academic working environment.

Against this backdrop, this section considers approaches – in the Flemish Community and other OECD jurisdictions – to supporting junior researchers to plan and develop their career, to providing professional learning opportunities for academic staff in the field of teaching and to creating positive working conditions for academics.

Supporting junior researchers

A majority of those who complete a PhD in OECD countries go on to work outside academia. Within a representative sample of 16-65 year-olds in OECD jurisdictions participating in the OECD Survey of Adult Skills in 2012 and 2015, 26% of doctorate holders younger than 45 worked in higher education, compared to 28% among doctorate holders aged 45-65 year-olds (OECD, 2019[14]). Moreover, the same survey found that doctorate holders under 45 working in higher education were about 2.5 times less likely to be employed on a permanent basis than doctorate holders in the same age group working in other sectors. This pattern is a reflection of a common tendency in OECD jurisdictions for post-doctoral researchers – and junior academic staff more generally – to be employed on fixed-term contracts, often for many years (OECD, 2020[7]).

Despite the generally more protected employment conditions for academic staff, these broad patterns are also visible in the Flemish Community. A 2018 evaluation of the research funding system in Flanders estimated that 80% of doctoral holders in Flanders move to the non-academic labour market (Van der Beken et al., 2018[15]). Data shared with the review team by the KU Leuven show that only 9% of those completing a PhD at that university go on to work in academia. Of post-docs at the same university, one-third of those who had previously completed a PhD at a Flemish university go on to obtain a job in a university in the Flemish Community. The proportion all post-docs, including those having obtained their PhD outside the Flemish Community, going on to obtain an academic position at a Flemish university is only 11%.

The low proportion of post-docs with PhDs obtained abroad moving into permanent academic jobs is likely to be explained in part by the Dutch-language requirements for obtaining a permanent academic post in the Flemish Community. The language requirements in place are widely reported to be more stringent than in neighbouring countries and to make it hard for non-Dutch-speaking international researchers to obtain permanent positions. In 2020, 48% of post-docs in Flemish universities held non-Belgian nationality, but this was the case for only 12% of permanent academic staff (ZAP). Of the 12% non-Belgian permanent academic staff, one-quarter held Dutch nationality. As highlighted in Box 6.2, the Flemish Community is an outlier in applying such strict language requirements, with only few countries imposing language requirements for academic staff and even fewer implementing stricter statutory regulation specifically for academic staff than for public sector employees more generally. In the Netherlands, for example, appointment to permanent academic positions does not routinely require a prior knowledge of Dutch (it may be considered as an asset for candidates), although all staff are encouraged to develop Dutch-language proficiency when in post to facilitate internal communication.

Box 6.2. Language requirements for obtaining permanent academic positions

Of 28 OECD jurisdictions responding to the 2020 Higher Education Policy Survey, five reported that statutory local language requirements for access to public service employment also applied to academic staff. This is the case in Estonia, Finland, France, Italy and Lithuania. In general, such general requirements, applying to all public sector staff, require at least a good conversational level of the local language, although the precise competency level required and the means of certification vary between jurisdictions. In addition to the Flemish Community, only the French Community of Belgium and Estonia report that specific statutory requirements for academic staff exist for knowledge of the local language. In Canada, knowledge of local languages forms part of collective agreements in some provinces, but higher education institutions generally have autonomy over language requirements, including in Quebec, a province with generally robust legislation relating to the use of French.

Source: Golden, Troy and Weko (Golden, Troy and Weko, 2021[16]) *"How are higher education systems resourced? Evidence from an OECD policy survey*", OECD Education Working Papers, No. 259, OECD Publishing, Paris, https://doi.org/10.1787/0ac1fbad-en.

Compared to many other OECD jurisdictions, the Flemish Community has relatively well-embedded mechanisms to support doctoral and post-doctoral researchers to develop their profiles and, for most, to prepare for careers outside academia. Since 2013, the Flemish government has provided Flemish universities with dedicated grant funding for activities to support doctoral and post-doctoral researchers through an initiative called "Supporting Young Researchers" (*Omkadering Jonge Onderzoekers* - OJO). A 2018 evaluation of the initiative reported positive effects, despite the difficulty of measuring these, and recommended the continuation of the programme with a 25% increase in resources, albeit with a clearer focus on transversal skills (Bongers et al., 2018[17]). The importance of support to young researchers for their professional development and the management of expectations about pursuing an academic career were factors also stressed by Flemish universities consulted by the review team.

Belgium's knowledge-intensive economy means that doctoral graduates, including those who have spent time as post-docs, are often able to find rewarding work outside the academic sector. Nevertheless, given the relative stability in the number of academic posts in Flemish universities over the last decade (see Table 6.1), the 2018 evaluation of the research funding system recommended that future investment in research be used to create additional permanent posts to allow a higher proportion of young researchers to pursue academic careers (Van der Beken et al., 2018[15]).

Professional learning for academic staff – efforts to support good teaching

Professional learning for higher education staff has historically been less well developed then in many other professional fields, although this has begun to change in recent decades (OECD, 2020[7]). Higher education sector bodies and governments in several OECD jurisdictions have taken steps to enhance professional learning opportunities for new and established academic and teaching staff, in recognition of the increasing demands placed on the profession and a wider policy focus on the question of teaching quality, in particular (Donnelly, 2016[18]). These system-level initiatives complement existing institutional professional learning strategies and have taken various forms.

In the Netherlands, for example, all 14 universities now use and mutually recognise the University Teaching Qualification (*Basiskwalificatie Onderwijs* - BKO), first created in 2008 (VSNU, n.d.[19]). This allows lecturers to develop and document their teaching practice with support from a senior lecturer or educationalist, with certification based on evaluation of a portfolio submitted at the end of the teaching development phase. Several Belgian universities, including Hasselt University, KU Leuven and Antwerp University, are affiliated to the process, running similar schemes, with mutual recognition of the resulting

certification. In Ireland, the National Forum for the Enhancement of Teaching and Learning in Higher Education (T&L, n.d.[20]) has established a National Professional Development Framework for academic staff. The body supports professional learning activities through guidance to institutions, targeted funding and awards for excellent teaching. In the United Kingdom, the Higher Education Academy (now called Advance HE), is an established membership body funded by higher education institutions that promotes improved teaching, governance and leadership through professional development programmes, awards and fellowships (Advance HE, n.d.[21]).

Evidence on the impact of these initiatives is limited, partly because some of the initiatives are comparatively recent, but mainly because it is inherently challenging to assess the effects of professional learning activities on practice (Hughes et al., 2016[22]). As with many initiatives to promote professional learning, including among school teachers, it is important that they move beyond a philosophy of "providing training courses" and support higher education professionals to critically reflect on their practice and learning needs and seek out opportunities to develop.

Within the scope of this review of the Flemish Community, it was not possible to explore the vast issue of professional development for higher education staff in any depth. While there are no system-wide requirements in relation to professional development (such as a requirement for a University Teaching Qualification, for example), it is clear that individual higher education institutions – particularly the larger ones – have well-developed human resources policies that encompass professional learning for junior researchers, new academic staff and established faculty members. One area that did emerge in the review and has been highlighted in Flemish policy discussions is the need for capacity building in the field of digital education, to allow the more effective deployment of digital technologies to enhance learning and teaching (Voka, 2020[23]). This is almost certainly an area where system-wide coordination would be valuable, to develop and share professional learning content and approaches to supporting professional learning in digitalisation for academic and teaching staff.

It is appropriate to note that some OECD governments have also introduced more indirect measures, not used in the Flemish Community, to promote the quality of teaching and learning in higher education. In addition to programme approval and quality assurance and accreditation systems, which remain the primary mechanism for ensuring quality in most OECD jurisdictions, several governments have introduced policies that draw on the results of student surveys and data on graduate employment outcomes. Both Denmark and Finland, for example, which have established national student feedback surveys, use information generated from these in their core funding allocation models for higher education institutions, albeit linked to a small proportion of the overall budget. Denmark and Ontario (Canada) are among the relatively few OECD jurisdictions to use graduate employment metrics in their funding models, again with the explicit or implicit hope that this will incentivise institutions and staff to focus on students' acquisition of labour-market-relevant skills, which, in turn, requires a focus on effective teaching (Government of Ontario, 2019[24]).

The United Kingdom's Teaching Excellence Framework (TEF), introduced in 2016, combines information from the National Student Survey (NSS) and data on graduate employment outcomes with qualitative assessment of institutional strategies for teaching and learning, assessed by an independent Panel (Office for Students, 2020[25]). Introduced in a bid to enhance the student learning experience in UK higher education, the TEF provides institution-level awards of gold, silver or bronze for the assessed quality and relevance of undergraduate provision, with the awards from the first round of assessments valid until 2021. Participation is voluntary for institutions, although all major universities take part. While acknowledging that the TEF only measures vague proxies of teaching quality, a review of the system has recommended that the system be retained as a transparency and accountability mechanism, albeit with minor adjustments to the methodology used (TEF Independent Review, 2019[26]). A revised system is under preparation at the time of writing.

Managing stress and promoting well-being in academic careers

The earlier discussion about supporting young researchers already highlighted the particular pressures faced by young researchers in higher education as they seek to develop their careers, both within and outside academia. The pressure is particularly acute for post-doctoral researchers. Post-doc contracts in Flemish universities – whether financed by the Research Foundation – Flanders (FWO), by universities through the Special Research Funds (BOF) or other funding bodies – are typically awarded for three years, which is a short period to develop and refine a research profile and skills, deliver research outputs and invest in research funding applications and career development. Against this backdrop, the 2018 evaluation of the research funding system in Flanders recommended longer post-doc contracts, more support for post-docs to develop a rounded skills-set and, ultimately, more investment to create academic posts into which post-docs could transition (Van der Beken et al., 2018[15]).

More generally, the same evaluation of the research system found that the Flemish competitive research funding system and the strong focus on research output in performance evaluation were sources of frustration and stress among researchers and academics. As in other OECD systems, increases in the number of researchers have led to increased competition for research funding and reduced success rates to historically low levels. This creates inefficiencies, as well as negative consequences for the morale of research-active staff. To address this, the evaluation recommended a combination of a targeted reduction in funding applications (through internal pre-selection, for example) and, predictably, increased funding for the Research Foundation – Flanders.

Researchers surveyed for the 2018 evaluation called for greater emphasis to be placed in their own appraisal on aspects of their job not related to publication, such as education and service. The strongly performance-oriented funding system is likely to have been one of the factors that led to a significant focus on publications in appraisal of academic staff. The recent changes made to the design of the BOF allocation model, discussed in Chapter 4, with the reduction in emphasis on research output and emphasis on quality and cooperation, were in part made to reduce the pressure on researchers to deliver an ever increasing volume of publications. Nevertheless, as also highlighted earlier in this report, pressure to publish comes not only from domestic funding and regulatory arrangements, but from competitive forces within the international research community. It is therefore hard to judge how policy changes will affect the behaviour and attitudes of the academic community in relation to research output and the internal pressures that exist within universities to publish continually.

The challenges related to workplace pressures in Flemish higher education are common to most OECD higher education systems. The issue has received considerable attention in recent years in the neighbouring Netherlands. There, too, key challenges identified have been institutional research funding not increasing in line with the expansion in the number of researchers and the regularity with which researchers need to apply for external research funding, with only limited chances of success (Dutch Government, 2020[27]). In response, in 2020, the Dutch Research Council (NWO) and the Association of Universities of the Netherlands (VSNU) have launched a joint action plan to tackle the issue (see Box 6.3).

Box 6.3. Integrated plan to reduce pressure on the science system in the Netherlands

In 2020, the Dutch Research Council (NWO) and the Association of Universities of the Netherlands (VSNU) agreed on a joint action plan to reduce pressure on researchers and academics in a research system that had become increasingly dependent on competitive research funding. The main actions proposed are:

- *Universities will aim to strike a new balance in the recognition and appraisal of researchers and academic staff*. The VSNU has developed a new national framework for appraisal and promotion that emphasises distinct career paths in academia, in which staff can be valued for performance in different fields (teaching, outreach and leadership, as well as research). This will be designed to counter a perceived over-emphasis on research performance in appraisal and promotion decisions. The national guidelines will be translated into institutional procedures in each university in 2021, allowing flexibility to adapt the framework to specific contexts.
- The NWO *will amend the criteria it uses in judging "good scholarship"*, replacing use of individual publication indicators with qualitative assessment of CVs with a narrative character.
- Universities will *reduce emphasis on success in winning competitive research funding* in their promotion decisions, particularly for staff who are not in a strongly research-oriented career path.
- Universities will provide young researchers with *start-up research grants*, when finances allow this, and *strengthen cooperation among university research support services* to monitor the number of applications for external funding and improve advice to academic staff. The objective is to reduce the number of applications for external research funding and ensure completed proposals are better targeted.

The NWO and universities also plan to investigate the effects of setting quotas for the number of applications that can be submitted to NWO from a single institution and whether it would be feasible or valuable to organise pre-selection of research ideas within institutions.

Source: (VSNU and NWO, 2020[28]) *Integraal plan Verlagen druk op het wetenschapssysteem* (Integrated plan on reducing pressure on the science system), https://www.rijksoverheid.nl/documenten/rapporten/2020/03/02/bijlage-verlagen-druk-op-het-wetenschapssysteem (accessed on 2 June 2021).

In some OECD jurisdictions, including Flanders, there has also been an increasing focus on the well-being of staff within higher education institutions (Beech, 2018[29]). This has also been driven by concerns about the pressures faced by young researchers and academics, with some commentators also arguing that competition between universities is also a contributory factor to stress in the academic workplace (O'Brien and Guiney, 2018[30]). In addition to the structural factors, there are signs that workplace bullying, harassment, and intimidation have increased in academia, although this may also reflect increased reporting (Jisc, 2021[31]). Job security, professional development opportunities, respect and assertiveness in relationships and the presence of open two-way communication systems are all also identified as key factors influencing the well-being of academic staff (Metcalf et al., 2005[32]).

In the United Kingdom, there has been a strong focus in recent years on staff well-being and mental health in the university sector. Launched in 2017, the "Stepchange" initiative provides a strategic, system-wide framework to promote mental health in British higher education institutions. Stepchange was co-developed by Universities UK, the association of United Kingdom universities, and Student Minds, a British student mental health charity. The framework calls on universities to make staff, as well as student, mental health and well-being a strategic priority. Stepchange supports the development and implementation of policies

promoting mentally healthy workplaces, building mental health into performance regimes and training managers and research supervisors (Universities UK, n.d.[33]).

6.3 Policy issues and recommendations for human resources policy

Policy issue 1: Student-to-staff ratios and expanding career opportunities in academia

This chapter has highlighted the challenges in comparing student-to-staff ratios in higher education between countries and the difficulty of determining optimal ratios of students to staff to ensure quality and efficient use of resources. However, the available evidence suggests that the number of full-time equivalent students for each academic and teaching staff member in Flemish higher education is higher than in most comparable jurisdictions. Using an approach more commonly used to measure the supply of doctors and nurses (OECD, 2019[34]), the chapter also highlighted that the number of academic and teaching staff in relation to the size of the population is also relatively low in Flanders.

Part of the explanation for this lies in the fact that post-doctoral researchers in Flemish higher education rarely engage in teaching, which is not the case in some other OECD systems, where post-docs teach more frequently and thus count towards teaching staff numbers. Another factor is the relatively high cost of employing staff in Belgium, which affects academia, like other sectors. In 2020, the OECD calculates that Belgium had the highest rate of combined employee and employer taxation and charges for single people without children earning the average wage of any OECD country (OECD, 2021[35]). Average total labour costs in Belgium for a single person without children, earning the average wage, were the fourth highest in the OECD, in purchasing power parity terms, after Germany, Austria and Switzerland.

Having a high-tax economy, with strong labour protections and funding higher education primarily from public sources are political choices with benefits and costs. In such contexts, governments implicitly accept that employment in higher education will be expensive and that the academic and teaching posts required to operate a high-quality higher education system will need to be paid almost exclusively from public funds. The balance of evidence suggests that a proportion of the additional public resources recommended above for higher education could productively be used by institutions to create additional academic posts. Such creation of costly posts would need to be carefully targeted to have greatest impact on reducing student-to-staff ratios where this is most urgently required and to create additional career posts for junior academics in fields with greatest demand.

Recommendation

- With a view to a) reducing student-to-staff ratios to support teaching quality in programmes with greatest need and b) expanding research and teaching capacity in priority fields identified by higher education institutions, the Flemish Government should ensure that a proportion of additional public funding for higher education can be used to create new staff posts. Planned creation of additional posts and the expected effects of this can be explained by institutions in the institutional agreements also proposed in Chapter 3.

Policy issue 2: Diversity in the academic workforce

Despite improvements, men occupy a large majority of the senior ranks in higher education institutions in the Flemish Community – particularly in the universities. The adoption, within the university sector, of the new Charter on Gender in Academia appears to be a positive step and will hopefully lead to greater changes than the previous set of Gender Actions Plans, which are reported to have had limited effect

(Roos et al., 2020[36]). The new Charter does not appear to establish time frames for realising its key objectives. As such, careful monitoring of progress towards gender equality goals in the next few years - as proposed in the Charter - will be especially important as a basis for assessing whether more robust measures need to be taken to improve the gender balance in senior ranks.

The rigorous Dutch-language requirements for permanent academic staff positions make Flemish higher education comparatively unattractive – and sometimes simply inaccessible – for many international staff and researchers. Concerns to ensure that public servants have a good command of the domestic language and to protect the Dutch language within academia are entirely legitimate goals. However, it is questionable whether the current stringent and uniform requirements are needed to achieve these objectives. It is notable that other OECD jurisdictions, such as Quebec or Finland, implement measures to promote language diversity without imposing such rigorous language requirements for academic staff. Moreover, the costs and benefits of a rigorous protection of Dutch should be weighed against the costs and benefits of a more internationalised higher education workforce. It is clear that, at present, the Flemish government invests considerable sums of taxpayers' money in supporting international researchers at doctoral and post-doctoral level, who are often subsequently unable to access permanent positions. There is a risk that some of the best talent is thus lost to the higher education system.

Recommendations

- The Flemish authorities and higher education sector should closely monitor progress in relation to the goals of the Charter on Gender in Academia and, in parallel, assess whether an equivalent initiative is needed in the university college sector. Should progress in the university sector within three to five years prove inadequate, the sector should consider the adoption of binding goals for gender representativeness in senior academic positions.
- With a view to increasing the proportion of international academic staff in Flemish higher education, the Flemish Government should introduce greater flexibility in the formulation and application of the Dutch-language requirements for initial appointment to permanent academic posts, drawing inspiration from the models adopted in other OECD jurisdictions, including the Netherlands and Finland.

Policy issue 3: Professional learning and digital skills

Within the scope of a broad review such as this, it has not been possible to analyse in detail the professional learning requirements of academic staff. It is clear that individual institutions have well-developed policies for professional learning. Nevertheless, given the generalised trends towards greater use of digital technologies in learning and teaching, there will be a growing need in Flemish higher education, as in other OECD higher education systems, for professional learning around the successful deployment of such technologies. Given the shared nature of the challenges related to digitalisation and the need for some system-wide infrastructure and approaches, support for professional learning should be embedded in a broader system-wide strategy for digitalisation in higher education in the Flemish Community.

Recommendation

- As part of a broader strategy for digitalisation in higher education, the representative bodies of the higher education institutions should identify opportunities for system-wide professional learning activities and approaches that can complement and strengthen institutional-level initiatives.

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7 Looking to the future

The previous chapters of this report have focused on the design and operation of different components of the Flemish higher education system, with a view to identifying possible areas for improvement. This chapter takes a broader view and focuses on three further issues that are likely to have a profound influence on the way higher education systems develop across OECD member countries in the decade to come and that have a particular relevance for the Flemish Community. These issues are: a) increasing the role of higher education institutions in post-initial, continuing education as part of broader efforts to support citizens in developing their skills throughout life; b) exploiting the potential of digitalisation to enhance the quality and reach of higher education and; c) supporting established higher education institutions to adapt to the changing environment in which they operate.

7.1 Future opportunities and challenges for Flemish higher education

Increasing the role of higher education in lifelong learning

The need for adult learning opportunities, including at tertiary level, will increase

Many analyses have been published in recent years that highlight the changing distribution and content of jobs in OECD economies, the likely impact of further automation and digitalisation and the need for high-quality lifelong learning opportunities to help adults adapt to this evolving environment (OECD, 2019[1]). The OECD has estimated that technological change will fundamentally alter the nature of 32% of jobs in major OECD economies and that a further 14% of current jobs could disappear altogether (Nedelkoska and Quintini, 2018[2]). Such structural changes to employment, which are expected to increase demand for well-developed cognitive capacities, will inevitably require many citizens to adapt and learn new skills during their working lives.

Analysis in Belgium has highlighted not only the need for workers to upgrade their skills to keep up with changes in the world of work, but also the risk of skills shortages if no action is taken to improve the supply of skills (Agoria, 2018[3]; OECD, 2019[4]). In general, the risks of technology-driven job obsolescence and the needs for upskilling are most acute for the least educated sections of society, in Belgium as in other OECD countries. Individuals of working age who have not completed upper secondary education are already less likely to be in work in Belgium than in neighbouring countries. In 2018, only 47% of those aged 20-64 with a low level of education were employed in Belgium, compared to 52% in France, 61% in Germany, and 63% in the Netherlands. The OECD estimates, based on current trends, that the employment rate of this group could fall by up to seven percentage points in the period up to 2030 (OECD, 2020[5]). While low-skilled jobs will still exist – and be required by society – responding to these broad trends will require more emphasis on upskilling and call for effective strategies to deliver well-targeted learning opportunities at basic and intermediate skills levels.

If the most significant effects of automation and economic change will be felt by the lower-skilled sections of society, governments across the OECD will need to focus considerable attention on supporting these groups. Very often, this will mean strengthening and renewing learning support in adult education and employment services. Citizens in OECD countries with higher levels of education are less likely to be dramatically affected by technological and economic change and, particularly among those with tertiary education qualifications, are already more likely to participate in non-formal and formal learning as adults (OECD, 2019[1]). However, changes in higher-skill jobs and increasing demand for specific skills sets, such as data management, cybersecurity or energy-saving construction techniques, to name but a few, will also drive further requirements for lifelong learning opportunities for the better qualified. This includes those with high school diplomas, post-secondary qualifications and degrees. It is in this space that many skills specialists see a clear role for higher education institutions.

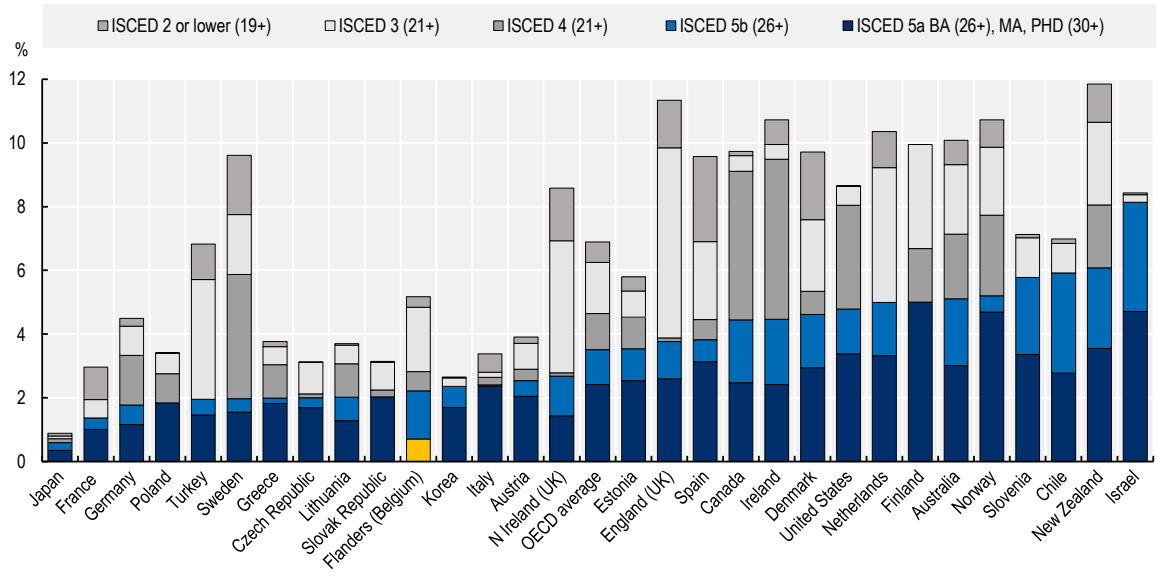
Adult learning in higher education is weakly developed in OECD jurisdictions

Participation among adults in formal learning organised by educational providers is not particularly common in OECD countries. As shown in Figure 7.1, the OECD Survey of Adults Skills, conducted in 2012 and 2015, found that an average of under 7% of participating adults had engaged in some form of formal learning in the previous 12 months. Even in New Zealand, England, Norway and Iceland, where participation rates were found to be highest, only just over 10% of adults responding to the OECD survey had engaged in any form of formal learning. As also shown in Figure 7.1, the proportion of this formal learning occurring in higher education, either in professional fields (formally called ISCED 5b) or academic fields (ISCED 5a and above) varied between OECD jurisdictions, but, on average, accounted for less than half of total formal learning experiences. Only just over 2% of adults from Flanders that participated in the

Survey of Adult Skills had taken part in some form of learning at tertiary level (i.e. in a university or university college) in the previous 12 months.

Figure 7.1. Recent adult participation in formal education

Adults reporting that they have engaged in formal learning at the indicated level of provision in the last 12 months in PIAAC 2012 and 2015



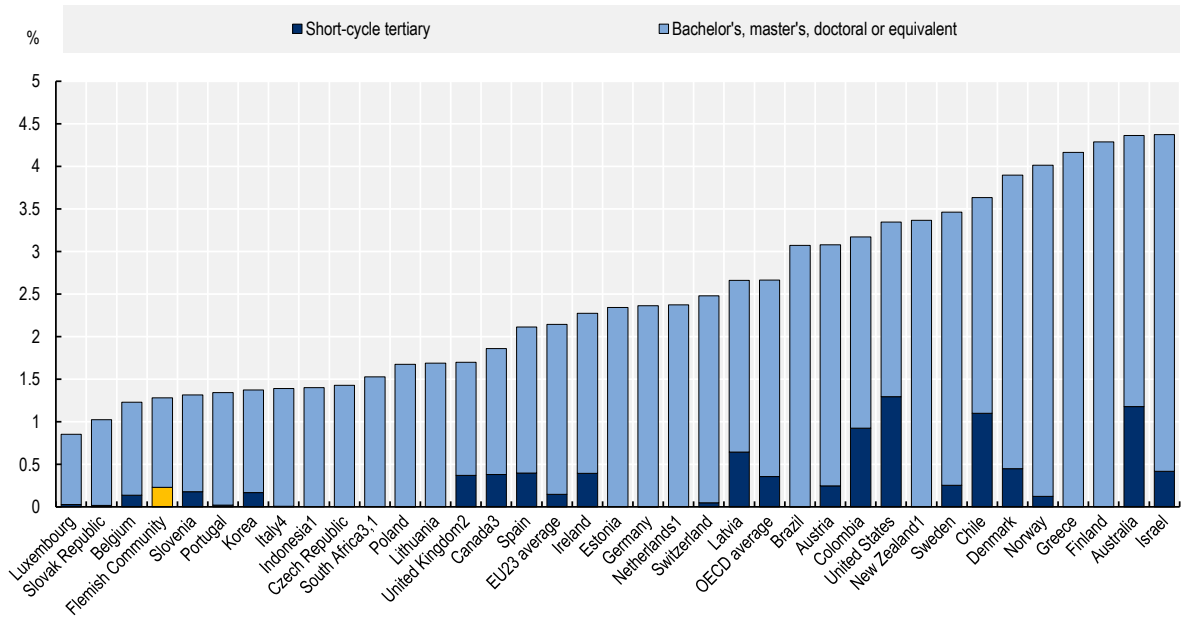
Note: Ages from which participation is considered "adult learning" are indicated in brackets.
Source: OECD (2018), Survey of Adults Skills database (PIAAC) (2012, 2015), www.oecd.org/skills/piaac.

StatLink https://stat.link/a213vj

The general patterns of participation in lifelong learning in OECD jurisdictions identified by the Survey of Adult Skills are also visible, albeit with some differences, in data on enrolment in tertiary education. As shown in Figure 7.2, only around 2.5% of the population aged 25 and over in OECD countries was enrolled in tertiary education in 2018. These data encompass everyone aged 25 and over, not just those of working age, as they are intended to provide a genuine picture of "lifelong" learning. However, they provide a broad indication of the level of engagement with the higher education system among work-age adults in the countries concerned. Even in Iceland, Israel, Australia and Finland, only between 4 and 4.7% of the adult population was enrolled in tertiary education in 2018. In the Flemish Community, however, this proportion was particularly low, at 1.28%.

Figure 7.2. Adult enrolment in tertiary education

Proportion of the population aged 25 years or older enrolled in tertiary education (2018)



Note: 1. Short-cycle tertiary programmes included with bachelor's, master's and doctoral programmes; 2. Short-cycle tertiary programmes include a small number of bachelor's professional programmes; 3. Excludes post-secondary non-tertiary education and short-cycle tertiary private institutions; 4. Upper secondary vocational programmes include post-secondary non-tertiary education.
Source: OECD (2020[6]) *Education at a Glance 2020*, Table B1.3, https://dx.doi.org/10.1787/69096873-en; Data for the Flemish Community supplied by the Flemish authorities.

StatLink https://stat.link/qoahi2

A number of recent Flemish policy documents have acknowledged the challenge facing the region in terms of lifelong learning and stressed the importance of increasing participation in continuing education, including at higher education level. The Flemish Government's long-term development strategy, "Vision 2050" (Flemish Government, 2016[7]), establishes lifelong learning as one of its seven priorities, while the Flemish Education Council (VLOR) called for greater focus on tertiary-level educational offerings for adult learners and returnees in its 2019 advisory note on the future of higher education (VLOR, 2019[8]). Most recently, lifelong learning has been specified as one of the three priorities for deploying European Union Recovery and Resilience Funds in higher education in the Flemish Community, in the Government's planned "Higher Education Advancement Fund" (*Voorsprongfonds*) (Flemish Government, 2021[9]).

Policies seek to promote adult learning in higher education, but effectiveness is mixed

The extent and scope of lifelong learning opportunities offered in higher education institutions varies widely between OECD jurisdictions, although most countries are in the process of extending their lifelong learning offerings. While this makes it difficult to identify systems that offer examples of "good practice" in this area, there are a number of established criteria that make learning at higher education institutions more attractive for adults:

1. *Admission criteria that take into account prior learning*, in particular for adults from vocational pathways. In Germany, for example, access to higher education for those with vocational qualifications was formally regulated for the first time in 2008. An agreement of the Conference of

the Education Ministers of the Federal States (*Kultusministerkonferenz*) now specifies common rules for the recognition of prior learning. Most federal states agreed to reserve 3-10% of all higher education places for adults with vocational qualifications. Around the same time, the Federal Ministry of Education funded the pilot project ANKOM, which developed and tested approaches to the recognition of prior learning in higher education (Heister, Hemkes and Wilbers, 2019[10]). The number of higher education students without higher education entry qualifications has since quadrupled, but remains at a low level. In 2018, only 2.9% of all new entrants into higher education did not hold a standard higher education entry qualification (Abitur) (Mordhorst and Nickel, 2020[11]).

2. *Flexible learning opportunities*, including part-time, modular, credit-based and online learning offers. While higher education institutions in most countries offer some kind of flexible provision, the understanding of what this entails varies across countries (Dolhausen and Wolter, 2013[12]). In the context of the COVID-19 pandemic, online learning offers have gained increasing prominence for lifelong learning. Even prior to the pandemic, Sweden was notable for having a high share of higher education students enrolled in distance courses. About one in four students was registered for at least once distance course in 2015/2016. Distance education students are typically older than campus-based students and are more likely to have children and have parents that don't have a higher education qualification (Gröjer, Berlin Kolm and Lundh, 2017[13]).
3. *Learning opportunities with clear labour market relevance*, which are practical and problem-oriented. This requires close collaboration between higher-education institutions and local labour market actors, notably employers themselves. Skillnet Ireland (n.d.[14]), a business support agency of the Irish government, has succeeded in implementing a range of enterprise-led workforce development strategies, for example. The agency facilitates collaboration between local employer networks, higher education institutions and training providers to develop non-formal and degree level training opportunities in line with labour market needs. One of the recent programmes developed through such collaboration of the Technology Ireland ICT Skillnet and higher education institutions is Ireland's first Masters in Artificial Intelligence.

The 2018 OECD Skills Strategy in Flanders (OECD, 2019[4]) highlighted the limited number of adult learners in Flemish higher education institutions and called for more accessible and flexible course offerings and more work-based learning opportunities within the programmes delivered by university colleges. However, it is important to acknowledge that the Flemish higher education system already has many of the ingredients typically recommended to improve accessibility and attractiveness for adult learners.

Educational content is structured in a flexible manner, with a well-developed system of credit accumulation and transfer, while institutions allow students considerable flexibility in the number of credits for which they enrol. University colleges, in particular, have strong links with the business sector and public employers and institutions receive funding for both degree-seeking students and those enrolled on a "credit contract". Moreover, the recent development of associate degree programmes in the higher education sector (following the transfer of Level 5 programmes from adult education centres) has created a new higher education learning offering that has the potential to be attractive to certain categories of adult learners. University colleges consulted for this review also reported they had introduced new short credentials to respond to identified skills needs in the economy, notably in the area of digital skills.

There is almost certainly scope to increase the range of learning options for adults further, with the development of more micro-credentials (Kato, Galán-Muros and Weko, 2020[15]), to increase online educational offerings (see below) and potentially to increase provision of certain courses in the evenings and weekends (VLOR, 2019[8]). It is also possible that there is scope to improve the current system of recognition of prior learning (EVC – *Elders Verworven Competenties*), although this was not a topic covered by this review.

However, it is important for policy to recognise the limits of what higher education institutions can do on their own, even with additional funds for the expansion of adult learning options. Expanding take-up of lifelong learning, so that the population is able to prepare for changes to come, not merely react to them, will require a change in mind set about adult learning in the general population and among employers. This implies developing a culture and expectation that learning extends beyond initial education and training and that engaging in adult learning is the norm. Achieving this is no simple task, as demonstrated by the low rates of participation in adult learning in most OECD countries, despite at least two decades of politicians and policymakers reiterating that lifelong learning is essential. A concerted, cross-governmental approach will be needed to tackle both the supply and demand-side bottlenecks that currently prevent greater engagement with adult learning, potentially informed by international experiences.

Exploiting the potential of digitalisation

Digitalisation has the potential to enhance learning in higher education

Deploying digital technologies is often presented as a means to enhance the accessibility, quality and efficiency of higher education (Wolff, Baumol and Saini, 2014[16]). While some analysts focus on recasting traditional forms of higher education (such as the bachelor's degree) through the injection of technology-based learning solutions, future-oriented commentary and prospective analyses also consider the potential of technology to facilitate a more radical reshaping of learning and teaching in universities and colleges (KPMG, 2020[17]). However, robust evidence on the effects of digital learning on student outcomes (as proxies for quality) and on the cost of provision is limited.

In an interesting recent study, Chirikov et al. (2020[18]) develop and evaluate a model to allow resource-constrained higher education institutions in Russia to adopt online STEM courses produced by high-ranking universities using blended and online learning. Through a multi-site randomised controlled trial, they found that undergraduate students in online and blended instruction achieved similar learning outcomes to those in traditional in-person instruction at substantially lower costs. This finding supports the theory that routine forms of instruction in higher education (such as lecture-based foundation courses in STEM fields) can be digitalised with no significant loss of quality. It also provides an example of the type of unbundling of learning content into different components facilitated by digitalisation, which could in future support more flexible programmes and micro-credentials (Kato, Galán-Muros and Weko, 2020[15]), as well as more pooling of educational content between higher education institutions.

Evidence on the impact of more sophisticated – and often emerging – forms of digital learning technology, including learning analytics and artificial intelligence (AI) is even scarcer. In principle, adoption of such technologies could lead to increased efficiency in more interactive and practical activities, from tutoring to laboratory work. Some predict that smart bots offer the prospect of personalised learning at scale (KPMG, 2020[17]), while there is evidence that machine learning could help reduce the – hitherto high – development costs for intelligent tutoring systems (Weitekamp, Harpstead and Koedinger, 2020[19]). Other commentators, such as Maloney and Kim (2020[20]), argue that fervent advocates of AI often view learning in primarily transactional terms, focus on algorithmic areas of knowledge (such as algebra or grammar) and ignore the broader role of human educators in supporting students to acquire a rounded set of competencies.

Notwithstanding the ongoing discussions about the impact of specific digital technologies in higher education, there is a widespread recognition that a shift to more online and blended learning can enhance existing programmes and allow the delivery of new, flexible and accessible programme types. More generally, as in other sectors, digital technologies are changing the functioning of higher education institutions across their spectrum of activities. Against this backdrop, OECD governments are increasingly taking steps to support higher education institutions to adopt digital technologies, albeit with different approaches.

Governments and higher education systems are developing policies for digitalisation

In many OECD higher education systems, governments have taken a backseat in relation to digitalisation in higher education, leaving higher education institutions to drive change as part of their strategies. Even in overwhelmingly public higher education systems, such as Denmark and Sweden, governments have generally left digitalisation to institutions (Laterza, Tømte and Pinheiro, 2020[21]). In other countries, such as Norway and France, governments have taken a lead in promoting digitalisation in certain areas of higher education activity. In others still, change is being coordinated by partnerships such as the Irish National Forum for the Enhancement of Teaching and Learning in Higher Education (T&L, n.d.[22]).

Policies tend to focus on three main areas:

- *Digital readiness* – which encompasses i) the accessibility of digital technologies to higher education actors (staff – teachers, researchers, administrators – and students), and ii) the development of public policies and institutional strategies that promote the capability of higher education staff and students to use technologies and adopt digital practices.
- *Digital practices* – encompassing the way higher education staff – in leadership, academic and non-academic roles – and students use digital technologies in their activities, and how they adapt their practices as a result of the use of digital technologies.
- *Digital performance* – refers to the measurement and assessment of the use of digital technologies in higher education.

Although different policy tools, including targeted funding, have been used by government to support digitalisation of higher education, several OECD jurisdictions have recently undertaken audits of the level of digital maturity of their systems (an aspect of "digital performance"), as an input to more holistic and evidence-based policy making.

In Croatia, for example, researchers have drawn on previous taxonomies to develop a "Digital Maturity Framework" to analyse the digital readiness and practices in the country's higher education system (Durek, Kadoic and Begicevic Redep, 2018[23]). As shown in Table 7.1, this framework, which has attracted international attention, identifies seven key areas of digital maturity, each with several elements. The areas cover the full spectrum of higher education institution activities, ranging from leadership and planning to quality assurance, learning and teaching and the institution's "ICT culture". The framework's developers have since developed a self-assessment tool, with descriptors for different levels of digital maturity, to allow institutions to evaluate their deployment of digital tools as an input to developing or refining institutional digitalisation strategies.

Table 7.1. Digital Maturity Framework for Higher Education Institutions

Areas	Elements
1. Leadership, Planning and Management	Financial investment in the use of ICT in learning and teaching: research and development; and the business of the institution
	Strategic planning of ICT integration in higher education institution (HEI)
	Managing the integration of ICT in learning and teaching at HEI
	Managing the integration of ICT in scientific research at HEI
	The planning and implementation of training for HEI employees in the field of digital competencies and ICT application
	The relationship between HEI and state from the aspect of ICT integration
	HEI policy in ICT integration and monitoring global trends
2. Quality Assurance	ICT quality assurance policies
	The monitoring and periodic review of study programs from the aspect of ICT application
	Work evaluation of teaching, research, administrative and technical staff
	The continuous monitoring of the results of scientific-teaching work and progress
	Procedures for determining the needs, development, or acquisition of ICT resources and their application

Areas	Elements
	Approved procedures and follow-up of student enrolment, progress through study, and completion of studies supported by ICT
3. Research	The use of ICT in the preparation and publication of scientific papers
	ICT support in the preparation and management of scientific research work and projects
	ICT research (collaborative ICT research on HEI)
	A system of support for researchers at the beginning of their careers in applying ICT in scientific research
	Continuous training of researchers in applying ICT in scientific research
	The networking and collaboration of researchers with ICT support
4. Technology Transfer and Service to Society	Collaboration with stakeholders (i.e. employers, the local community, and pre-tertiary education) supported by ICT
	Applied research and professional projects supported by ICT and/or for ICT
	The networking of researchers and users of research (stakeholders) supported by ICT
5. Learning and Teaching	Preparation, storage, and use of digital content in learning and teaching
	Innovative learning and teaching methods with ICT
	The development of teachers' digital competence
	The development of students' digital competences
	The use of learning analytics to improve learning and teaching
	Ubiquitous learning and open curricula
	Personalisation and support for under-represented groups by using ICT in learning and teaching
6. ICT Culture	The network presence of HEI
	Using ICT in HEI promotion
	The development of digital literacy and the promotion of innovativeness in ICT application with HEI employees
	The self-confidence and motivation of employees in terms of the importance of ICT application
	Providing access to and motivation of employees in terms of the importance of ICT application
	Providing access to and support in the application of ICT infrastructure
	The application of ethical standards, copyright, and intellectual property in the ICT field
7. ICT Resources and Infrastructure	The availability of ICT resources (hardware and software) for learning and teaching
	Network infrastructures at HEI
	Access to ICT resources for students (both in and out of the classroom)
	The digital environment and information systems available to employees and students
	The technical support and maintenance of ICT resources at HEI
	The information security system

Source: Durek, Kadoic and Begicevic Redep (2018[23]) *Assessing the digital maturity level of higher education institutions*, http://dx.doi.org/10.23919/MIPRO.2018.8400126.

In Ireland, the National Forum for the Enhancement of Teaching and Learning in Higher Education has developed the Irish National Digital Experience (INDEx) survey. Implemented in 2019, this survey tool seeks to explore the "digital experiences of students and staff who teach, highlighting what makes a difference to them and providing an evidence base to inform future decision-making and enhancement of teaching and learning" (T&L, 2019[24]). The survey asks staff and students about their experiences of using different digital technologies, their attitudes to the technologies, their knowledge of technologies and the digital training they had received. The 2019 survey attracted a response from 24 484 students and 4 445 staff at 32 higher education institutions. The information collected is being used as an input to institutional strategies and the development of future system-level cooperation and government support.

The Flemish Education Council has identified digitalisation as a priority for Flemish higher education and, in its 2019 advisory report on the future of higher education, proposed to work with the government to develop a digitalisation strategy for the higher education sector (VLOR, 2019[8]). Flemish Government has also identified digitalisation as one of the three pillars of its "Head Start Funds" (Flemish Government, 2021[9]). Given the proposal to invest more in this area within Flemish higher education, there is scope to learn from some of the analytical and consultative approaches that have been used recently in other OECD jurisdictions, to enhance the evidence base for institutional and system-level planning.

Managing the landscape of institutions and programmes in a changing environment

The Flemish higher education landscape is adapting to a changing environment

Increasing needs for lifelong learning and digitalisation are trends that are already influencing the strategies Flemish higher education institutions adopt and the way they are shaping their educational offering. Pressure for change from society, the economy and from government has to be reconciled with existing legal obligations, frameworks for human resources, programme approval and quality assurance mechanisms, and available funding. At the same time, as discussed earlier in this report, institutions and staff are expanding and refining their activities in research and service. All of these factors and choices influence the profile of individual institutions and their place in the Flemish higher education landscape.

The Flemish university system provides good geographical coverage of the Flemish Region and its bilingual capital, Brussels. The five universities are distributed in the three major cities, in the historical university town of Leuven and in Hasselt, the regional capital of Limburg. In broad terms, the five institutions have differentiated profiles, with distinct institutional strengths and strategies. The establishment of the associations with university colleges creates an unusually strong link between university and non-university institutions, in comparison to other OECD jurisdictions with binary systems. Moreover, through the Flemish Interuniversity Council (VLIR), the five universities cooperate and frequently speak with one voice in discussions with government. The network of regional campuses resulting from the 2013 transfer of academic programmes from university colleges, has further increased the regional presence of the universities. Although the regional campuses add to the costs of the system, this was not highlighted as a major concern during this review.

If the role of the regional university campuses in bringing specialised education in their fields closer to regional populations is unquestionable, their capacity to undertake high-quality research is less clear. Recent analyses have pointed to potential weaknesses in this respect and questioned the effectiveness of the Supplementary Research Funds (*Aanvullende onderzoeksmiddelen*) that support research in these programmes (Rekenhof, 2018[25]; de Boer and Jongbloed, 2018[26]). Flemish officials and stakeholders stress that these assessments occurred only five years after the restructuring process , meaning effects will not have filtered through, and that developing research capacity takes time.

The university college sector also has many positive features, although the picture is perhaps more nuanced. This is a sector that has undergone considerable change in recent decades. Following a period of significant consolidation in the 1990s, during which a large number of historical university colleges merged, the transfer of academic programmes to universities in 2013 led to a further wave of mergers. Since 2019, university colleges have acquired a new role in delivering associate degree programmes at level five, as a result of their transfer from adult education centres.

The review team was impressed by the commitment and vision of the university college leadership with which it spoke during the review interviews. It is clear that there is a shared commitment to delivering high-quality professional programmes across the sector, responding to skills needs in the Flemish economy and supporting the development of students, a significant proportion of whom are among the first generation in their families to enter and complete a higher education programme. Many university colleges are developing impressive profiles in practice-oriented research, despite the limited funding available (see Chapter 4).

The development of short-cycle programmes within the higher education sector represents an opportunity to expand the reach of university college education and is welcomed by institutional leaders. The high demand for these programmes since their transfer to university colleges testifies to the attractiveness of short-cycle programmes for particular groups of potential students and suggests that these programmes, as they become fully embedded into higher education, will likely make a positive contribution to skills development in the Flemish Community, as they have in other OECD jurisdictions.

Nevertheless, the question of competition and complementarity remains. Many university colleges report that there is an unsustainably high level of competition for students among university colleges in the same region. The comparatively small size of Flanders and its good transport network additionally means that the catchment areas of different university colleges overlap. The competition is also driven by the similarity of the core programme offering in many university colleges and the relatively stable cohort of young people of traditional student age in Flanders. While institutions certainly have distinctive profiles and specialisms, large programmes in business, social work, education, nursing and healthcare, are provided in multiple university colleges, sometimes in the same city.

Promoting specialisation and addressing competition is challenging

The analysis and recommendations in Chapter 3 of this report note that the challenge of competition and complementarity between higher education institutions cannot be addressed easily through the design of the funding allocation model, without a departure from the principle of funding that is proportionate to activity levels. The funding model seeks to provide a fair and transparent allocation of resources that is proportionate to the level of activity, efforts and costs within each institution. This inevitably means that the funding an institution receives depends on its capacity to attract students.

Some governments have sought to limit competition between institutions by imposing student recruitment limits. As noted earlier in the report, Finland and Scotland agree to recruitment caps with each institution, for example. California (United States) imposes maximum shares of total in-state student enrolment for the University of California System (UC) and the California State University System (CSU), to ensure that most higher education students in public higher education in the state must first enter the California Community College System (CCC). Such approaches are not uncommon in OECD jurisdictions, but require a willingness for government to regulate higher education institutions and curtail institutional autonomy.

An alternative approach could be to encourage and support further profiling and restructuring within higher education institutions, so that institutions are more distinct and less frequently in direct competition with other, similar institutions. Such approaches, which have been promoted in Finland and the Netherlands through the systems of performance agreements, can have effects, but also tend to require interventionist policies such as mandatory mergers, consolidation or transfer of research units and programmes between institutions. The Flemish Community does have a track record of interventionist restructuring policies, but this sits uneasily with the emphasis on institutional autonomy which is now dominant in Flemish higher education.

7.2 Policy issue and recommendations for planning for the future

The Flemish Community lacks an overarching higher education strategy, similar to those seen in some other OECD jurisdictions, such as Finland (Ministry of Education and Culture, 2017[27]), Ireland (Department of Education and Skills, 2011[28]) and the Netherlands (Dutch Government, 2019[29]). The current proposals for the “Higher Education Advancement Fund” (*Voorsprongfonds*) (Flemish Government, 2021[9]) set out some very brief strategic orientations, but these appear to have been prepared primarily to respond to the short-term availability of European funding. They are not comparable with the system-wide strategies, informed by broad consultation seen elsewhere. Given the need to address challenges relating to lifelong learning, digitalisation and refining the institutional landscape highlighted above, there is a need for a systematic, collective analysis of the precise nature of these challenges and the direction the higher education system should take in responding to them. This could form the basis for a Flemish higher education strategy, encompassing the issues discussed in this chapter, but also topics related to research, such as the future organisation and scale of practice-based research support for university colleges.

Recommendation

- Building on the consultation being undertaken for the “Higher Education Advancement Fund” (*Voorsprongfonds*), the representative organisations of the higher education institutions, in close partnership with government, should develop a clear and accessible Flemish strategy for higher education in a single document, encompassing education and research. The development process for should involve the higher education sector, relevant government departments and agencies, student and staff representatives and other stakeholders. Such a strategy can provide a framework for future policy actions affecting the higher education sector and the refined institutional strategies developed as part of the new system of institutional agreements.

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Higher Education

Resourcing Higher Education in the Flemish Community of Belgium

The report on *Resourcing Higher Education in the Flemish Community of Belgium* is the first in a series of publications produced by the OECD's Resourcing Higher Education Project. This project aims to develop a shared knowledge base for OECD member and partner countries on effective policies for higher education resourcing through system-specific and comparative policy analysis. The review of resourcing in the Flemish Community of Belgium has a strong focus on the funding of operating costs, teaching and research in Flemish higher education institutions. It also analyses financial support for students, system-level frameworks governing human resources policy in higher education and key trends in higher education that will impact future higher education resourcing policy. Alongside analysis and comparison of Flemish resourcing policy approaches, it provides recommendations to support future refinement of policies.

Co-funded by the European Union

PRINT ISBN 978-92-64-56229-5
PDF ISBN 978-92-64-92682-0

9 789264 562295