

1 Assessment and recommendations

This chapter synthesises key policy issues and recommendations identified by the OECD review team in the three main areas covered by the review: the core public funding model for higher education institutions in Portugal, the strategic steering and funding of future development of the public higher education system and the resourcing of policies to support widened access to higher education.

The context for the review – Portugal’s higher education system

Higher education enrolment and attainment rates in Portugal have increased substantially in the last decade

Enrolment in higher education in Portugal reached its highest ever level in 2020/21, with almost 412 000 students enrolled in one of the country’s 106 higher education institutions (HEIs). Following a substantial decline in enrolment following the 2008 financial crisis, student numbers increased by 15% between 2014/15 and 2020/21. Over 80% of these students were enrolled in public universities and polytechnics, with just over 50% in public university programmes and around 30% in public polytechnic programmes. Much of the expansion in enrolment in the last decade has been concentrated in the North Region (Norte), while enrolment has decreased in absolute and relative terms in the regions of Alentejo, the Algarve and the Azores. Around two-thirds of students in public higher education in Portugal study at institutions near their homes, with the remaining third moving to another locality to study. More than half (54%) of all students who move municipality to attend higher education go to institutions in the municipalities of Lisbon, Porto and Coimbra. However, most students (three-quarters) attending higher education in the Lisbon functional urban area (FUA) are local to the urban area.

The number of study places in public HEIs accessible through the largely centralised General Access Regime – the main entry route for school leavers to access higher education – is regulated by the government through a nationwide system of *numerus clausus*. Public universities generally fill more than the basic number of regulated study places they have available, while student demand for places in public polytechnics is more variable, with some institutions over-subscribed and others, particularly in Alentejo and the Central Region (Centro), left with empty places after the National Access Competition (CNA) has been completed. These institutions, like their counterparts across Portugal, have increasingly diversified their student recruitment, notably through specific, institution-level entry routes for candidates for short-cycle programmes in polytechnics (Professional Higher Technical Programmes – TeSPs), students aged over 23 and international students. Despite efforts to diversify enrolment, the share of first-time entrants to higher education aged below 25 in Portugal in 2020 was 91%, compared to an OECD average of 83% (OECD, 2021^[1]).

The higher education attainment rate among those aged between 30 and 34 in Portugal increased by 16 percentage points in less than a decade, from just under 28% in 2012 to almost 44% in 2021. Portugal now has a tertiary-education attainment rate among 30-34 year-olds above the average of the 27 European Union (EU) member states (41.6% in 2021), although still somewhat below the levels seen in parts of Northern Europe, the Netherlands, Switzerland and Ireland, where attainment rates now exceed 50% for the same age group (Eurostat, 2022^[2]).

Higher education graduates in Portugal generally have good job prospects and demand for advanced skills is growing

In 2020, 87.9% of higher education graduates aged 25-64 in Portugal were employed, compared to 82% of upper secondary graduates and only 70% of those without an upper secondary qualification in the same age group. The average employment rate for higher education graduates in OECD member countries was 84.6% in the same year. Among recent graduates – those aged 25-34 – the equivalent values were 84% for tertiary graduates in Portugal, compared to 83% for tertiary graduates on average in the OECD and 82% and 73% respectively for those with and without upper secondary qualifications in Portugal (OECD, 2022^[3]). Moreover, the average earnings advantage for higher education graduates in Portugal remains significant. OECD data show that young higher education graduates in Portugal (aged 25-34) have, on average, consistently earned around 50% more than those with upper secondary or post-secondary, non-tertiary qualifications (OECD, 2022^[3]). Unemployment data in the second half of 2020 for recent graduates show considerable variation between programmes, with registered unemployment rates ranging from

below 1% for nursing and medicine to over 10% for tourism and marketing-related degrees (DGEEC, 2022^[4]). Given these latest programme-level unemployment data are for a period during the COVID-19 pandemic, unemployment rates among graduates, and notably those from tourism and hospitality programmes, must be interpreted with caution.

Although the share of employment in knowledge-intensive services and high-technology manufacturing in Portugal is lower than in many other OECD countries, employment in skill-intensive sectors is forecast to grow strongly in the coming decade. The European Union's skills agency, Cedefop, predicts that employment in high-tech occupations in Portugal will grow by 18% between 2020 and 2030, double the average rate of growth in European Union countries overall (Cedefop, 2022^[5]). High-tech employment growth will be driven by the services sectors, notably in fields such as information and communications technologies (ICT), energy, and administration, with strong demand for a range of professional occupations. Cedefop predicts that four out of five new job openings in Portugal in the coming decade will require either high or medium-level qualifications.

The total supply of graduates from bachelor's or master's degrees in Portugal (over 90% of all higher education graduates each year) remained slightly below the average of OECD countries in 2019, with 73 new bachelor's and master's graduates per 10 000 population, compared to an OECD average of 79. The number of new bachelor's and master's graduates in sciences and engineering (including construction) relative to population was above the average of OECD countries – reflecting Portugal's traditional strengths in these fields – but the number of graduates in ICT fields per 10 000 population, at 1.1, was below the OECD average of 2.9, and significantly below leading countries, such as the United States (4.3), Denmark (5.9), Finland (7.6) and Ireland (12.6) (OECD, 2021^[1]).

Demographic change will reduce demand for higher education among traditional student populations, particularly in interior and island regions

The population of Portugal is ageing at a faster pace than populations in most OECD countries. The share of population over 65 was already 22% in 2020, about nine percentage points above the average of OECD countries (13%). Statistics Portugal's population projections for 2035 and 2080 show that all age groups below 60 are projected to shrink in coming decades, while the group of people older than 60 is projected to increase. The population aged 20-29 that constitutes the bulk of demand for higher education is projected to decrease in Portugal by 13.5% between 2020 and 2035 (Statistics Portugal, 2020^[6]). The pattern of demographic change will vary between regions. Whereas the 20-29 age cohort is projected to increase by 10% between 2020 and 2035 in the Lisbon Metropolitan Area and by 4% in the Algarve, it is projected to decline in all other regions of Portugal, with the decrease ranging from -14% in Alentejo to -26% in the North Region and more than -30% in the island region of Madeira.

Given that over 80% of students completing scientific-humanistic tracks in upper secondary education (two-thirds of all upper secondary students) already enter higher education directly after school, these demographic trends will inevitably lead to a decline in the number of "traditional" higher education students in Portugal overall, and interior and island regions in particular.

Efforts to increase higher education participation among graduates of upper secondary vocational tracks will only partially compensate for a decline in the volume of students completing the scientific-humanistic track and entering higher education. Upper secondary vocational graduates are also more likely to enter professionally oriented programmes adapted to their needs (such as short-cycle courses), rather than established polytechnic programmes or academically oriented programmes in universities. Actions to encourage adult populations to engage in upskilling and reskilling in higher education and attract more international students to Portugal will also bring additional students into the higher education system. However, the scale of these additional inflows is not certain and – in the case of upskilling and reskilling at least – will also require further innovation in the design and delivery of educational offerings.

Spending on higher education in Portugal is below the average in OECD countries and the funding system needs reform

In 2018, the most recent year for which international data are available at the time of writing, total spending on public higher education institutions in Portugal was the equivalent of 0.9% of Portugal's Gross Domestic Product (GDP). Public expenditure was equivalent to around 0.7% of GDP, compared to OECD averages of 0.9% for public expenditure and 1.1% of GDP for total spending. Total expenditure on core services (excluding spending attributed to ancillary services and research) per full-time-equivalent (FTE) student in public HEIs in Portugal was 68% of the average in the OECD, after adjusting for purchasing power parity. In absolute terms, not taking into account differences in purchasing power between countries, total per-student spending in euros in Portugal in 2018 was around 80% of the average of OECD Eurozone member countries. Just over 70% of spending on public HEIs came from domestic public sources, compared to around 80% in the 22 European Union (EU-22) countries that are also OECD members, while spending from international sources (primarily EU funds) was substantially higher than the average of European Union OECD members (OECD, 2021^[1]).

Personnel costs (essentially salaries and social security) accounted for almost 74% of the total outgoings of public higher education institutions in Portugal. This proportion was almost 80% in polytechnics, but only 71% in universities, where rates of expenditure on facilities and other operating expenses are higher than in the polytechnic sector. These figures compare with an average rate of expenditure on personnel costs in public and government-dependent higher education institutions in the OECD of 68% (OECD, 2022^[3]).

Following the significant funding reductions implemented after the 2008 financial crisis, total core funding from the state budget for public HEIs in Portugal increased by 15% in nominal terms between 2017 and 2021. Since 2020, funding increases have been part of the latest iteration of the "Contract for the Legislative Term" (covering 2020-23), in which Portugal's government committed to increase the budget envelope for core public funding by 5% in 2020 (compared to 2019), to compensate for government-mandated reductions in tuition fees, and subsequently to increase the budget by at least 2% annually between 2021 and 2023 (Government of Portugal, 2019^[7]). As a result of these recent increases, nominal total investment – not taking into account inflation – has broadly kept pace with changes in total enrolment (total enrolment in full-time-equivalent students increased by 13% in the period), but not with faster enrolment growth in the polytechnic sub-sector. As discussed in depth in Chapter 3 of this report, the decision not to apply a formula-based allocation process from 2009 onwards has meant that core-funding allocations to individual institutions have become progressively misaligned with real enrolment levels.

The remainder of this overview of the assessment and recommendations emerging from the review of higher education resourcing in Portugal is structured around the three topics that have been the focus of the analysis:

1. This first section (Chapter 3 in the report) examines the allocation of *core public funding for operations and instruction* to higher education institutions, focusing on the operating grants funded from the annual state budget (*Orçamento do Estado* – OE). Given the distinct questions at play, it was agreed from the outset that this review would not examine the operation of Portugal's national research council, the Foundation for Science and Technology (FCT), or have an explicit focus on research funding as such. The FCT is responsible for providing most of the dedicated public financial support to the legally distinct research units in which most research in Portuguese higher education occurs¹. However, as academic staff whose posts are funded from the state budget are also active in research, the discussion and recommendations consider the extent to which the core operating grant should also be explicitly regarded as a tool for supporting the research mission of higher education and whether research-related parameters might influence funding allocation.
2. The second section (Chapter 4 in the report) focuses on the way governments can use funding, dialogue and regulation to help steer the future development of national higher education systems. It examines the use of performance or mission-linked and strategic funding for higher education

institutions, institutional performance agreements and associated steering mechanisms, such as the regulation of study places. This section examines the range of policies available to governments to steer resource use in higher education over the medium to long term.

3. The final section (Chapter 5 in the report) examines, again from an international perspective, the direct and indirect material support for students in Portugal funded from public sources. It starts by considering the fundamental question of the location and accessibility of higher education institutions across the Portuguese territory, before examining the public student-aid programmes and the support that government provides for student services.

Core funding for higher education institutions

Ensure clarity about the purpose of the core operating grant to public higher education institutions

The core operating grant for public higher education institutions provided from the state budget in Portugal is designed to provide a “base” level of funding to permit the institutions to operate. An allocation formula adopted by ordinance in 2006 linked funding allocations to the delivery of education in the first and second cycles (bachelor’s and master’s degrees), recognising staff costs as the main cost driver in delivering this education. However, for a range of reasons, core public funding has not been fully allocated using a formula since 2009.

In contrast to some other university systems in Europe, such as Denmark, Finland or the Netherlands, Portugal does not provide a specific core grant directly to universities for research. Rather, the Foundation for Science and Technology (FCT) awards direct grants to research units associated to HEIs that are evaluated as “good” or above in the periodic research assessment exercise, in addition to competitive project-based funding. The FCT also directly funds researcher posts through the Stimulus Programme for Scientific Employment and provides grants for doctoral researchers. As academic staff who are associated with research units are paid by their employer higher education institution, it has – more or less tacitly – been accepted that the core operating grant to HEIs also contributes to funding research activity.

During consultations undertaken for this review, leaving aside the discussion of the adequacy and transparency of the grant allocations (discussed below), three main questions arose about the expected “coverage” and purpose of the core operating grant from the state budget:

- The first was the extent to which the core operating grant should support the regional development function and public-service mission of public higher education institutions without necessarily linking funding levels to enrolment or other activity.
- The second question was whether or not the contribution of the core operating grant to research activities, including PhD training, should be more explicitly acknowledged in policy design, including through the inclusion of research parameters in a future allocation model.
- The third question stemmed from the fact that the existing (but currently unused) 2006 funding formula contains no provision for funding short-cycle TeSP programmes in polytechnics, although these programmes now make up a significant proportion of polytechnics’ educational activity.

The first question touches on probably the most fundamental issue facing those designing a future higher education funding model in Portugal. Enrolment levels in institutions (particularly polytechnics) in interior regions and the islands have been declining steadily and – even with additional student recruitment among adult populations, vocational secondary graduates and internationally – this trend will inevitably continue in the coming decades. The adoption of a student-driven allocation model will, inevitably, lead to institutions with declining enrolment receiving a smaller share of overall funding compared to today.

The public-service role of higher education institutions in regional locations is clear. As discussed below, mechanisms can be built into funding allocation models to protect smaller institutions. However, to respect the criteria of transparency and equity for all institutions and to promote efficient use of resources, core-funding allocations should primarily be based on real levels of activity in institutions. Failure to link funding allocations to student numbers in recent years in Portugal has created an inequitable situation whereby some institutions receive considerably lower levels of public resources than their counterparts elsewhere in the country to support the education of their students. This brings attendant risks for the quality and the support services these institutions can provide. Reform of the core-funding allocation model should seek primarily to address this inequity. Beyond the stability mechanisms that can be included in the core allocation model highlighted below, the specific task of supporting institutions in regions facing demographic decline to adapt and pursue their public-service mission in the face of changing circumstances is best left to other funding and steering mechanisms, outside the scope of the core-funding model.

As noted, the core operating grant to public HEIs contributes to funding academic research by (partially) funding staff wage costs. This role of the grant could be made more explicit in the formulation of funding regulations and potentially through the inclusion of doctoral graduates as a funding allocation parameter in a new formula (see below). However, given the existing architecture of performance-linked funding for research in Portugal, it makes sense that primary responsibility for creating incentives for good research, for assessing the quality of research outputs and for funding research more generally should continue to rest with the FCT and the policies it implements.

Short-cycle Professional Higher Technical Programmes (TeSPs) are now well established as part of polytechnics' core business and are likely to become increasingly important as vehicles to support upskilling and reskilling among the adult population. The Flemish Community of Belgium, which recently integrated similar short-cycle programmes into its higher education system, adapted its funding formula to encompass these programmes, using standard student-related parameters, but with a distinct set of cost factors. Such an approach would make sense in Portugal in the medium term. However, it is recognised that a large proportion of funding for TeSPs until 2027 will come from EU funds and that the offer of TeSPs is still in a development and expansion phase. It may therefore be appropriate to delay full integration of TeSPs into a new core-funding model until after 2027.

Recommendations

1. Ensure that the design of a future model for allocating the core operating grant to public higher education institutions in Portugal is guided by the principles of transparency, equity of treatment between funded higher education institutions and efficiency. To promote transparency and efficiency in the higher education funding system as a whole and to create incentives for innovation and adaptation, provide support for institutions located in regions experiencing demographic decline through separate, complementary funding and steering mechanisms outside the core funding allocation model (see recommendations below).
2. In new secondary legislation or equivalent policy documents establishing a revised allocation model for the core operating grant paid to HEIs from the state budget, ensure the purpose and objectives of the grant, including its contribution to co-financing research in universities and polytechnics, are made explicit (see also recommendations concerning allocation criteria).
3. In the period up to 2027, direct European and national funding for short-cycle programmes (TeSPs) through the strategic funding routes proposed below. From 2027 onwards, aim to integrate funding of TeSPs into the core funding formula, in recognition of these programmes' status as a core component of polytechnics' educational activity.

Develop a new funding allocation model, guided by the principles of transparency, equity and efficiency

To provide an equitable distribution of scarce public resources to public higher education institutions, Portugal needs to adopt a rational funding allocation model for the core operating grant. Although opinions among higher-education-institution representatives and policy makers consulted during this review about the best future policy differ, there was a broad consensus that the formula from 2006 requires changes and cannot be re-applied in its current form. Given the multiple developments in Portugal's higher education system since 2006 and the lessons that can be drawn from the experience of other OECD higher education systems over the last decade, it makes sense to design a new allocation model from first principles, rather than attempting to adapt previous policy instruments or proposals. Equally, in order to restore the allocation of the core operating grant to a rational footing, it is appropriate to use a zero-based budgeting approach, whereby the entirety of the core operating grant allocations for each institution will ultimately – after an appropriate transition period, discussed below – be determined by the new allocation model.

The discussion in Chapter 3 examines the main choices that can be made in designing a new allocation model and the choices made by other OECD jurisdictions. Among these, the three most important decisions for Portugal are, arguably, whether or not to include a “fixed” (invariable) component in the allocation to each institution; whether to revise or maintain the existing subject-area cost factors used in the previous allocation model; and which parameters to use in the model to drive the allocation of funds. A fourth question is whether to work with fixed unit payments or a purely distributive formula. While Portugal's system of study-place regulation (*numerus clausus*) would theoretically provide spending safeguards to permit a system that uses fixed unit payments, there is a consensus among policy makers that a distributive system is the only feasible option in the Portuguese context.

In relation to the first decision, the high proportion of fixed or semi-fixed costs in Portugal's higher education institutions, partially determined by the country's comparatively rigid rules governing employment of academic staff, could justify the use of a fixed component in the new funding model. The experience of

Denmark, which moved from a mostly variable funding model (the “taximeter”) to one where 25% of core funding to institutions is allocated as a fixed basic grant to ensure stability and a focus on quality, could be instructive for Portugal, particularly as Denmark also has a largely binary system of higher education with a mixture of small and large institutions (OECD, 2021^[8]). Any fixed component should in any eventuality be kept to a modest share of total core funding to ensure the criteria of equity and efficiency are respected.

As discussed in Chapter 3, the cost factors used until 2009 in the previous funding formula in Portugal are broadly aligned with those in other OECD jurisdictions examined for this review. In contrast to the situation in other jurisdictions, the cost factors in Portugal were – notwithstanding methodological limitations – calculated on a rational basis with reference to average staff costs. While it would be possible to use these cost factors without further amendment, there appears to be a case to review the level of the factors used for certain programme groups. Underlying staff costs in universities are higher than in polytechnics – because of lower teaching loads and higher qualification levels among staff in universities – and also higher in subjects requiring extensive access to laboratories, studios or other expensive facilities than in classroom-based subjects. Nevertheless, as student-staff interaction is a key element of educational quality and staff costs are the main cost driver in higher education, some of the lowest cost factors currently used may not be fully justified. Additionally, there may be a case for reducing the number of cost categories to simplify – and thus increase the transparency of – the funding system.

In terms of the parameters to include in the model, international evidence, including recent trends, suggests that it is best to keep their number to a minimum. This is not only to ensure the funding system is easily understood and minimise administrative burden associated with data reporting, but also because the real effectiveness of including multiple parameters attached to a small proportion of funding is doubtful. Advanced OECD higher education systems tend to link a majority of core funding to simple input (enrolment) or student output parameters (credits or degrees). Portugal has previously used only enrolment parameters for first and second-cycle programmes. Given the previous recommendations on the scope and purpose of the core operating grant, TeSP students should, in the medium term, be included in the student-linked parameters, once the financing of TeSP programmes has been mainstreamed. Despite the limited evidence of the effectiveness of using educational output indicators (credits or degrees obtained) in funding models, a mix of enrolment and graduation parameters could be considered to signal the importance of study completion within the system. The effects of including output parameters (e.g. degrees awarded) on actual funding allocation would need to be modelled as part of development of the new formula.

From a logical standpoint, there may also be a case for including the number of doctoral degrees awarded in the selected reference period as a parameter in a new formula, to acknowledge the role of universities in doctoral training and the staff resources – largely paid for by the core grant – dedicated to this activity. However, those designing the new funding formula would need to reflect carefully on the appropriate cost factor (weighting) to attach to each doctoral degree awarded. Other OECD jurisdictions that use the parameter of “doctoral degrees awarded” in institutional funding (such as the Netherlands or the Flemish Community of Belgium) apply this parameter, along with others, for the allocation of separate budget envelopes for institutional research grants, not for the allocation of their respective teaching grants. Portugal does not allocate a separate budget envelope as a direct research grant to institutions. Moreover, it would be important not to give excessive weight to doctoral training in a revised formula for Portugal’s core operating grant. As such, further careful modelling of the effects of different weightings for doctoral degrees would be required, if a decision were taken to include doctoral graduates as a parameter in the new formula.

In order to ensure the purpose of the core operating grant in Portugal remains clear, to ensure that the funding formula remains simple and to preserve the role of the FCT as the government body with primary responsibility for monitoring and funding research, it would not be advisable to include research output parameters in the core funding formula.

Recommendations

4. Develop a new model to allocate the core operating grant from the state budget to public HEIs, in which a majority of core funding is allocated using a formula. Adopt a zero-based budgeting approach, starting from first principles and factoring in an appropriate transition period to allow institutions to adapt to the new system (see below).
5. To create additional stability in the system and in recognition of high fixed costs in the higher education sector, consider allocating a minority of the core operating grant to public HEIs (perhaps between 15% and 25%) as a fixed funding component, which remains stable (other than adjustments for inflation) over time. Denmark provides a helpful policy example to draw on for lessons during the detailed policy-design phase if this option is pursued.
6. As part of the detailed design phase for the new model, review the validity of the existing (2008) cost factors for the two sub-systems of the public higher education sector, assessing if the current cost differences between subject fields and between university and polytechnic programmes are justified. The review should acknowledge the higher cost of delivering subjects in laboratory and studio-based disciplines and the generally higher staff costs in universities, but equally the importance of funding adequate student-to-staff ratios across all fields of study. The review should also assess the impact on institutional funding of using a more limited set of three or four cost factors for each sub-sector of the higher education system.
7. Link all or most variable core funding in the new model to simple student-related parameters. For bachelor's and master's programmes (and, in the medium term, short-cycle programmes), the number of enrolled students is the simplest option, although additionally including a parameter for degrees awarded would send a signal about the importance of degree completion, complementing other policies to promote progression and completion. If the option is retained, the most appropriate parameter to recognise resources spent on doctoral training would be the number of doctoral degrees awarded. However, careful modelling would be required to assess the effects and appropriateness of including this parameter in the allocation model for the core grant. To reduce the impact of year-on-year fluctuations in student activity, the average values of parameters for the previous two reference years could be used in the formula calculation.

Recognise that implementation of a new funding allocation model will require a transition period and additional resources

While designing a new core funding allocation model based on the principles of transparency, equity and efficiency is an important step, it is clear that implementing such a model will additionally require both time and money.

Given the disparities in the level of core funding per weighted student between institutions analysed in Chapter 3 of this report, a primarily formula-driven model, if applied with immediate effect, would inevitably lead to funding increases for some institutions. More problematically, it would lead to reductions for certain institutions in interior regions and the islands that have experienced enrolment decline. As explained below, this review recommends channelling complementary public funding to higher education institutions, through a separate funding route, to support strategic investments and profiling, with dedicated funds to support institutions in interior regions and the islands. The latter dedicated funding will support institutions as they adapt – notably to attract students in realistic growth areas, where institutions can offer high-quality provision and to consolidate provision in fields where student numbers are projected to decline. Notwithstanding this additional financial support, institutions with declining enrolment will need to adjust to

a situation where they receive a smaller share of total core funding than they do at present and will require a transition period to allow them to prepare.

The preparations and modelling for a new formula allocation system could potentially be completed in time for its use for the 2024 state budget, presented in autumn 2023. The transition period should last no longer than strictly necessary, as a key goal of the reform should be to restore an equitable distribution of funds. There are at least two possibilities for structuring the funding system during a transition period:

- A system whereby a new formula is applied to a progressively increasing share of the total core budget envelope, with the remainder distributed on the current historical basis, perhaps over a three-year period.
- A system where the formula is not initially applied directly, but annual increases in the budget envelope for the core grant are distributed exclusively – or nearly exclusively – to the institutions that are currently under-funded in comparison to the share of funds they would receive if the formula were applied. Funding for institutions that would receive a lower share of total funding if the formula were applied would see their core funding allocation frozen or increased only modestly.

Careful modelling will be required to analyse the impact of a change to the core funding system and to determine the length of the transition period required to avoid severe financial shocks for institutions that stand to receive a reduced share of core funding. The time required will depend to a large extent on the additional resources that can be secured for the core funding envelope and notably if annual budget increases can be secured that go beyond the 2% increase currently planned. Care must be taken in designing transition arrangements to account for the funding needs of institutions that are currently under-funded, as well as those of those institutions needing to adjust their profile and activities to operate with a lower share of state budget funds.

Portugal currently allocates a below-average proportion of national wealth to higher education institutions, compared to both the OECD and European Union averages. As discussed below, to mobilise additional resources for higher education, the government should consider a more nuanced, graduated approach to tuition-fee regulation than the blanket reductions introduced in recent years, whereby fees are differentiated progressively according to family or student income. However, there is a case for mobilising additional public funds for higher education, if it can be demonstrated that the system is being put on a more efficient and sustainable footing.

Recommendations

8. Introduce the new, formula-centred funding allocation model progressively, with a transition period to allow institutions that, under the model, will receive a lower share of the budget envelope to adapt. The new model could either be applied to a progressively larger share of the budget envelope for core funding each financial year or funding allocations could be adjusted “manually” to rebalance the allocation of funds in line with the model until it is feasible to apply the model in full. To move as swiftly as possible to an equitable funding distribution, the transition period should be as short as possible.
9. Design the introduction of the model and the transition period taking into account a) planned complementary funds for strategic investment and profiling and dedicated funds to support institutions in interior regions and the islands and b) possible adjustments to tuition-fee policy.
10. Seek to mobilise additional public funding for core funding of public higher education institutions on the grounds that this will support clearly defined quality and efficiency objectives and in light of Portugal’s comparatively low levels of investment in higher education at present.

Supporting future development of the higher education system

Update the country’s vision for the higher education system, recognising more explicitly the need for restructuring

With the *Contrato de Legislatura* for 2020-2023, Portugal established a series of clear targets for the future development of the public higher education system. The strategy seeks to widen access to higher education, diversify and enhance the educational offering, including through provision of more flexible programmes for adults, and strengthen the country’s research base through the creation of additional researcher posts. This strategy has been helpful in informing institutional strategies and in guiding the direction of the system and targeted funding that has been allocated to initiatives such as Impulso Adultos and Impulso Joven STEAM. However, the strategy embodied in the *Contrato de Legislatura* and the approach taken to accompanying policies, such as the regulation of study places, fail to address in an effective and sustainable manner the fundamental challenges brought by demographic change.

Attempts to “protect” public higher education institutions in interior and island regions by allocating them additional study places and not adjusting core funding to real student numbers are doomed to fail in the medium term. There is no reason to believe the demographic decline of interior regions can be fully stopped – let alone reversed – even with successful economic policies. The number of local students in traditional cohorts will inevitably decrease further. Students from other parts of Portugal or abroad can be attracted to institutions if these institutions are able to offer programmes and a learning experience that is sufficiently distinct and of sufficiently high quality. It is unlikely such student flows can fully compensate for a decline in local students in a country where such a large proportion of students go to nearby institutions to attend higher education.

Equally, new student populations, from vocational secondary tracks and the adult population, can be attracted to well-designed, high-quality programmes, such as TeSPs or other types of short course. But developing new offerings and building quality in specialised areas linked to strong institutional profiles requires significant changes to institutional structures and staffing profiles. In the area of innovation, the only chance HEIs have of supporting the development of their regional economies – and this potential must not be over-stated – is by ensuring high-quality staff and applied and practice-oriented research

linked to regional needs. The need for adaptation and restructuring must be acknowledged explicitly in national higher education strategy and supported appropriately with targeted resources.

Not only are past and current policies to protect interior and island institutions likely to be ineffective, but, as noted earlier, they harm institutions and students elsewhere in Portugal, which receive fewer resources than they should. There is an urgent need to create additional, relevant capacity in higher education to cater to currently under-served populations in vocational-secondary tracks and the workforce in the metropolitan areas of Lisbon and Porto.

More generally, there is a need to build on existing efforts to encourage and support institutions to make clear strategic choices about the areas in which they wish to focus and those that are best left to other institutions. In a small country such as Portugal, it is particularly important for institutions to situate their own strategies in relation to those of other institutions, so that they contribute to building a coherent and efficient higher education system. This requires a guiding framework at national level, in the form of a national strategy, which identifies priorities and provides mechanisms for institutions to profile and co-ordinate themselves.

Recommendations

11. In preparation for the period after 2023, when the current *Contrato de Legislatura* ends, prepare and adopt a new national strategy for the sustainable development of the public higher education system, which identifies clear priorities for the future development of the system.
12. Alongside existing targets for widening access, diversifying provision and priority fields in education and research, include a greater focus on the need for individual HEIs to develop distinct profiles and centres of excellence. There might be scope for the higher education sector to map potential centres of excellence and specialist areas in different HEIs as a complement to the strategy itself and thus provide another reference point for the institutional profiling plans suggested below. The Dutch experience with sector plans (see Chapter 4) might be instructive in this regard.
13. Ensure that the strategy adopts an explicit and realistic approach to adapting the public higher education system to demographic change and acknowledges the need for consolidation in parts of the system and expansion in others, in the best interests of students. As part of this, ensure that the distinct and specific missions of universities and polytechnics are maintained and sharpened, as the binary structure will support institutional profiling.

Require HEIs to develop clear profiles and realistic development strategies in institutional agreements

The diversity of local and regional contexts in which public higher education institutions operate, as well as their specific subject mixes and strengths and weaknesses, are already reason enough to favour a differentiated, institution-by-institution approach to allocating strategic funding and assessing institutional performance. Increasing institutional specialisation and profiling will further strengthen the case for such an approach.

The experience of other OECD jurisdictions suggests that a system of institutional strategic development agreements would be an appropriate policy tool to adopt in Portugal, to support increased profiling, help target strategic investment and monitor institutional performance. Institutional agreements should link to the national strategy and policy framework described in the previous recommendation and include a self-assessment of the challenges and opportunities faced by the institution, definition of a profile based on strategic choices and priorities, definition of specific goals and specification of measures needed to reach

these goals. To ensure institutional profiles and strategies contribute to a coherent system, careful co-ordination at sector level and between institutions will be required. As part of their profile development, institutions should identify their contribution to skills development and innovation at national and regional level and, as appropriate, their contribution to the economic development and attractiveness of their home regions or of Portugal as a player in European and global networks.

The principle of institutional agreements is that institutions commit to efforts to sharpen and develop their profiles, strategies and activities in pursuit of clear objectives and that, in return, public authorities – in this case the Government of Portugal – commit to providing strategic funding to support change, in addition to the core operating funding discussed in Chapter 3. The scale of this funding, discussed in the next recommendation, will naturally influence the ambition of institutional development plans, although it is likely to represent a relatively modest proportion of total public funding to each institution.

It is crucial that higher education institutions undertake a realistic assessment of future student demand. Assessments should identify existing programmes – or new programmes – that will be able to attract new student groups in currently under-served local populations and high-quality specialist programmes linked to institutional profiles that will be capable of attracting students from elsewhere in Portugal and abroad. In light of Portugal's low numbers of graduates in ICT fields (see above), there is certainly scope for institutions to explore how the offer of ICT-related programmes can be increased. Equally, the assessments must identify programmes that will see student numbers decline and identify options for consolidating these within the institution, through co-operation with other institutions or simply through programme closure. As part of this, a clear staffing policy will be required, identifying where new staff posts are required and identifying options for staff displaced by programme restructuring. Although such restructuring is likely to be challenging, options might include transfer to other programmes, sharing of posts in co-operative programmes between institutions or, for suitably qualified staff, specialisation in research, innovation or service activities, rather than teaching.

For public authorities – in this case the Directorate-General for Higher Education (DGES) – institutional-agreement systems require sufficient internal capacity to prepare the process and organise the evaluation, approval and monitoring of the institutional agreements themselves. At least one additional full-time-equivalent post is likely to be required to form the core of a secretariat for the institutional agreements system in the DGES. The process for approval, monitoring and final evaluation of the institutional agreements will require careful specification. Experience from other OECD systems, notably Ireland, suggests the involvement of international experts as peers in the review and evaluation of institutional plans can be very productive and greatly increase the credibility of the process.

Recommendations

14. Introduce a system of institutional agreements for public higher education institutions, with an agreement concluded between government and each public HEI, indicatively for a four-year period. The agreements should contain: a) a self-assessment of challenges and opportunities for the institution, including a realistic assessment of future student demand; b) an institutional profile based on strategic choices; c) a set of clearly formulated development objectives, including the future programmatic offer; d) planned activities to achieve the objectives, using available strategic funds and own resources; and e) well-defined (quantitative or qualitative) indicators of success. Institutions will require an indication of the level of available additional funding to inform the formulation of planned activities.
15. Take necessary steps to strengthen human resources in the public administration to allow a small secretariat to be formed to organise the institutional-agreement system and monitor progress on an annual basis.
16. Involve international experts as peer reviewers in the initial assessment of institutional plans, prior to government approval, and in the final assessment of implementation after the four-year period. Ireland's experience in this regard may be particularly instructive for Portugal.
17. Conduct light-touch monitoring on an annual basis, using existing data collection processes, wherever possible – and recognising some goals can only be monitored through qualitative assessment and will not be assessed on an annual basis. The Directorate-General for Education and Science Statistics (DGEEC) has particularly strong expertise in the development, collection and processing of higher education indicators and will be a significant asset to Portugal in implementing an agreement system.
18. At the end of the (indicatively) four-year implementation period, conduct a thorough review of process, involving the same international peers, if possible. Consider asking institutions to provide case studies of particularly successful initiatives as the basis for awarding modest competitive bonus payments to institutions. In cases of significant under-performance by institutions, require institutions to prepare remediation plans, but avoid budget reductions, which risk being counterproductive.

Allocate strategic funding to all public HEIs and provide adjustment funds to institutions with the greatest need to adapt

The achievement of the objectives in institutional strategic development agreements will require investments, which, in turn, will require some additional public funding. Given that the reform of the system of core funding discussed above will also require some additional public funding throughout the transition phase, the level of funds available for the strategic development agreements is likely to be limited. Nevertheless, particularly in light of the role of skills in shaping Portugal's future development trajectory, investing in activities that improve the effectiveness and efficiency of the public higher education system represents a sound policy choice.

Experience from other OECD jurisdictions suggests that investments of 3% to 5% of core institutional funding can be effective in supporting change in higher education institutions. However, as investment needs for upgrading and restructuring higher education in Portugal are considerable, a budget envelope equivalent to at least 5% of total core funding would be appropriate. In addition, institutions in interior and island locations, which have greater adaptation needs and stand to lose out from a more rational core-funding allocation system will ultimately require a greater level of assistance, at least during the

restructuring phases. These institutions could be allocated additional “adjustment funding”, potentially from European Union Structural and Investment Funds.

The scope to use EU funds for adjustment funding for HEIs in eligible regions will need to be explored further. Of the three regions in continental Portugal that are classified as less developed under EU cohesion policy, the North Region has the highest number of HEIs, meaning there is generally competition for Structural Funds, while Alentejo has only one university and two polytechnics, leading to reported difficulties in absorbing funds (Pinto, Nogueira and Edwards, 2021^[9]). The Central Region, like the North Region, has large and attractive HEIs, but also a range of institutions in interior locations that face greater challenges. Even if EU funds can be mobilised to support adjustment funding, these disparities between the number of HEIs to support and regional funds available mean that additional national funding is likely to be required to ensure equitable treatment of institutions with greater adjustment needs.

Once funding allocations are calculated in a transparent way – indicatively a percentage of core funding for all institutions and with an additional percentage allocation for HEIs requiring adjustment – funds can be allocated to institutions as a lump sum payment, over which they have discretion for internal allocation. This would allow flexibility and avoid additional administrative burden. Accountability for the funds would be ensured by the strategic development agreements and accompanying monitoring processes. It may be appropriate to hold back a proportion of the budget envelope available for strategic development funds and allocate it to institutions on a competitive basis through targeted calls for proposals. Allocation of contributions for large infrastructure projects could be a candidate for such an approach. In all cases, the benefits, in terms of targeting, of a call for proposals should be weighed against the administrative burden for institutions and the central administration.

Recommendations

19. Provide multi-annual allocations of strategic development funding to all public higher education institutions to support achievement of the goals in their strategic development agreements. As funds permit, the level of funding could initially be around 5% of the total state budget funding envelope for public higher education institutions.
20. Allocate the majority of strategic development funding to institutions as a lump sum payment on a pro-rata basis, as a proportion of their core funding allocation (in the first year of allocation, with subsequent years in the indicatively four-year period maintained at this level, even if core funding falls as a result of declining enrolment). Accountability can be ensured through the strategic development agreement. Where appropriate, a minority of the available budget envelope could be awarded through competitive calls for proposals.
21. In addition to the strategic development funds, provide adjustment funding to institutions with greatest restructuring needs. These are the institutions that face the greatest level of enrolment decline and which will lose out most from a formula-based core-funding allocation model. Explore the feasibility of using European Structural and Investment Funds for this purpose, but ensure additional national funding is available to permit equitable allocations to all institutions in similar circumstances, irrespective of their region.

Ensure other policy tools support institutional profiling and system coherence

Many institutions in interior and island regions already have difficulty filling their allocation of study places (*vagas*) through the National Access Competition (and certainly through the first phase of the competition, when students select their first choice of study location). This problem will only become worse, as the youth cohort declines further. Attempts to persuade students to relocate to interior regions through restricting

study places in Lisbon and Porto have failed because many students simply do not wish to move to these regions, including because of the additional costs they would incur. Limiting study-place in certain fields in the country's two largest cities also restricts access to higher education for the large populations of under-served young people in these metropolitan areas.

There is thus a clear rationale for revisiting current criteria used in the *numerus clausus* system to ensure they allow greater expansion of study places designed to serve currently under-served student populations in metropolitan areas, while encouraging reduction of study places in locations where student numbers are declining and there is little hope of attracting students from elsewhere in Portugal based on the uniqueness and quality of the educational offering. The *numerus clausus* system can also be used as a tool to incentivise expansion of the educational offering in ICT-related fields, where Portugal is likely to face growing skills shortages. Consideration should also be given to introducing caps on study places for programmes that have significant and persistently poor graduate employment outcomes.

In contrast, where institutions in interior and island regions do offer programmes with strong potential to become excellence programmes – those linked to strong research centres or local industries, for example – there is a case to support the development of these programmes by restricting expansion of study places (or even cutting existing study places) in other locations that offer the programmes in question at equivalent or lower quality. Ideally, such intervention should be avoided by encouraging HEIs to co-ordinate their profiles and avoid direct competition in strategic fields for institutions in interior and island regions.

Another complementary measure, already recommended in the 2019 OECD review of higher education, research and innovation in Portugal is to remove the minimum teaching-load requirements from the legislation governing academic careers, to allow staff and institutions greater flexibility to define variable workload models. Two further policy areas, not directly covered by this review, could support the profiling and strategic development of the public higher education network discussed above. First, institutional evaluations by the Agency for Assessment and Accreditation of Higher Education (A3ES) could explicitly consider the institutional profile as part of their quality assessment. Second, FCT funding should clearly support the profiling process in a complementary manner. A review of the FCT funding instruments and an assessment of their capacity to support institutional profiling would help to inform appropriate policy decisions.

Recommendations

22. Revisit the criteria used to allocate study places through the *numerus clausus* system, removing the wide-ranging presumption against increasing study places in Lisbon and Porto and introducing restrictions on study places for programmes that stand little chance of attracting additional students or which have persistently poor graduate employment outcomes. In parallel, use the *numerus clausus* system strategically to restrict study places in programmes of equivalent or lower quality to excellent programmes located in interior and island regions.
23. Amend the decree-laws governing employment of academic staff to remove restrictive requirements regarding teaching load and facilitate more flexible workload models.
24. Ensure complementarity with institutional profiles and strategic development agreements is part of the evaluation criteria used by A3ES for institutional evaluations.
25. Ensure FCT research funding allocation criteria are supportive of the broader profiling and restructuring agenda, while analysing the need for a stronger focus on applied and practice-oriented research in polytechnics. Commission an external evaluation of FCT funding to ensure a critical reflection is held on the orientation of the investments made by this strategic agency and its complementarity with overall system goals.

Resourcing accessible higher education

Maintain a commitment to ensuring territorial coverage of higher education, but ensure a strong focus on quality and relevance in regional locations

In recent decades, Portugal has successfully – and substantially – increased the reach of its higher education system, initially expanding the network of public higher education institutions across the country and subsequently expanding participation through an increasingly diverse set of programme offerings. Compared to OECD countries of similar size, Portugal has a dense network of institutions that contributes to the accessibility its higher education system. Particularly for individuals from low-income backgrounds, for whom moving to attend higher education would be financially challenging, and those who lack the capacities and preparation needed to study successfully online, having a higher education campus in their home locality or region is likely to increase their chances of entering and completing higher education.

It is, therefore, appropriate for Portugal to maintain a commitment to the “physical accessibility” of higher education across the territory of the country. This is particularly the case for the offer of initial higher education programmes, such as short-cycle qualifications or professionally oriented bachelor’s programmes that attract large student numbers and that may be particularly well aligned with the needs of populations less able or willing to move further afield to study. Having high-quality opportunities to study in short-cycle TeSP and professionally oriented bachelor’s programmes in core subjects, such information technology, teacher education and certain areas of social care that are distributed across population centres and regions is particularly important, for example. As programmes become more advanced and more specialised, the case for concentration of offerings in a limited number of locations becomes stronger. Student demand for such programmes is more limited and specialist academic staff would ideally be concentrated in a small(er) number of centres, allowing sufficient critical mass and peer effects to deliver the quality of education and the learning environments that students require.

There is scope in Portugal for higher education institutions to sharpen their institutional profiles and to strengthen or create distinct centres of excellence providing specialised and advanced programmes, based on existing strengths in the areas of research and regional engagement. Equally, some existing provision,

particularly at bachelor's level and higher, may become surplus to requirements, as demographic trends evolve, and student demand falls further. This is likely to lead to institutional restructuring in some cases and may ultimately require some smaller institutions to work together as campuses within a single institutional structure. As shown by the development of branch campuses in higher education systems as diverse as Denmark and France, maintaining the territorial coverage of the higher education system does not imply higher education institutions need to be built or maintained in conventional forms. In some cases, there will be a trade-off to be made between maintaining "local" provision of higher education and ensuring sufficient critical mass, quality and relevance, including in terms of the employment opportunities offered to graduates in the region. In such cases, a careful evaluation of how students can best be served will be required.

Recommendations

26. Maintain physical accessibility of campuses as a criterion for planning the future of the higher education system, focusing on ensuring territorial coverage for entry-level tertiary programmes such as TeSP and other undergraduate programmes with strong student demand and high relevance to local and regional economies.
27. Recognise, in line with the recommendations above, that maintaining the territorial coverage of the higher education network does not imply maintaining the existing configuration of institutions. As part of strategic planning for the system it will be important to assess the role, in the medium term, of networked higher education campuses, exploiting the benefits of in-person and digital learning.

Consider linking tuition-fee levels to socio-economic criteria, while increasing the value of financial support to the students most in need, as public finances allow

Portugal has made considerable efforts in recent years to support low-income students to enter and complete higher education, through reducing study costs (with tuition-fee reductions) and increasing the reach of the student-grant system. From an international perspective Portugal is situated clearly in a cluster of European countries, which include Austria, Belgium, France and Italy, with comparatively low tuition fees in the public higher education sector and student financial aid systems focused exclusively on the lowest-income students. In light of the financial constraints facing Portugal's government – like other OECD governments – in the coming years, it will be challenging to increase greatly the level of investment in existing student-grant mechanisms, which already depend for a majority of their resources on European funds.

The decision to cut regulated tuition fees in public HEIs for all students and compensate institutions for the lost revenue has absorbed significant public resources to pay for what is effectively an untargeted subsidy that benefits not only students from lower-income backgrounds, but also those from middle and high-income backgrounds. A more nuanced approach would involve a progressive system of tuition fees, with the lowest fees for students in receipt of a grant, mid-range fees for students that do not qualify for a grant but come close to the eligibility requirements and higher fees for other students from more affluent backgrounds. The Flemish Community of Belgium operates such a model. In 2021/22, grant recipients (*beursstudenten*) in the Flemish system paid annual tuition fees of EUR 113.20 to attend publicly funded HEIs full-time, those who nearly qualify for a grant (*bijna-beursstudenten*) paid EUR 505.90, while other students paid EUR 961.90 (Flemish Government, 2022^[10]).

Portugal's system of student grants already provides financial support for students in short-cycle TeSP programmes and provides for grants that are reduced pro-rata from students studying part-time, as long as they are enrolled for at least 30 credits per year. As the government and higher education institutions

proceed with efforts to expand programme provision for adults seeking upskilling and reskilling opportunities, it would be appropriate to investigate whether the current grant system is sufficiently flexible to support a more diverse student population and whether it is most appropriate to support adult learners through the grant system or other mechanisms.

The +Superior programme continues to provide grants to low-income students studying in designated public higher education institutions in interior and island regions. To the knowledge of the OECD review team, since the inception of this programme in 2014, there has not been an independent evaluation of its effectiveness and efficiency. In order to plan for the future of this policy instrument, such an evaluation is required, in order to understand better which students take up +Superior grants and why, what they study, how successful they are in their studies and how they fare after obtaining qualifications. It is important that any future programme ensures the interests of students take absolute priority and that they are directed to study opportunities that are appropriate to their needs and offer them strong employment prospects. Low-income individuals should only be encouraged to move to study if these conditions are met.

Recommendations

28. Introduce a differentiated system of tuition fees, similar to the system used in the Flemish Community of Belgium, with the lowest fees for grant recipients, a medium fee level of lower-income students that do not qualify for grants and a return to higher fees for other students. Use resources freed up by such a policy to increase the eligibility threshold and level of student grants.
29. Conduct a review of the current eligibility criteria for student grants (such as the 30 credit enrolment requirement) to evaluate, in greater depth than was possible for this review, if the system is sufficiently flexible to support the increasingly diverse student population that the government aspires to achieve, whether changes are required or whether other policy instruments should be used to support adult learners.
30. Commission an independent evaluation of the +Superior programme to gain a better understanding of the profile of students supported, their rationale for their study choices and their study and employment outcomes. Use the findings from the evaluation to inform the future direction of this policy, ensuring the interests and outcomes of students take precedence over other considerations.

Explore methods to ensure more equitable investment in student services across the territory

Although it is difficult to compare investment levels in student services across HEIs that operate in different contexts and serve different student populations, the current variation in per-student investment in Social Actions Services does not appear to have a clear justification. More systematic analysis would be required to establish the causes and justification for the differences observed between institutions. While a return to earmarked funding of student services used previously in Portugal is likely to create administrative burden, reduce the flexibility of institutions and lead to inefficiencies, minimum national standards or guidelines may be required to ensure more uniform levels of student-service provision across the country. Moreover, in cities and towns where multiple HEIs are located, there is a strong case for pooling student services between the institutions to ensure accessibility and efficient use of resources. This could be guaranteed by co-operation agreements between institutions or, potentially, the creation of legally separate, jointly owned student service operations.

The National Plan for Housing in Higher Education (PNAES) appears to respond to a real need for additional student accommodation in Portugal, particularly in larger cities where rental prices are increasingly unaffordable for students who move location to study. The allocation criteria for PNAES funding have sought to ensure investments are targeted in locations with greatest unmet need for subsidised student accommodation. Any future public investment in student housing should also ensure appropriate targeting on the localities with greatest unmet student need to avoid inefficient deployment of limited resources.

Recommendation

31. Analyse the factors that explain the current variation in the per-student levels of investment in student services between public HEIs in Portugal and the effects of this variation in selected locations. On this basis, evaluate the case for minimum national standards or guidelines – such as a minimum level of services that should be provided – for institutional Social Action Services, which could, in turn, be assessed through institutional audits.
32. In locations with multiple public HEIs, require HEIs to develop solutions that allow student services to be shared between institutions, where there is a rational justification for this, to increase access and improve efficiency.
33. Ensure that future investments in publicly funded student housing are targeted in locations with greatest unmet need for housing from students and are planned with future enrolment levels clearly in focus.

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Notes

¹ Research and development (R&D) units may be established as part of higher education institutions, with or without the status of separate “organic units” in the institution’s structure, or as fully independent private entities, outside the structure of higher education institutions, but in which higher education institutions can participate. Of the 348 units evaluated by the FCT in the 2017 evaluation process for R&D units, 249 (72%) were integrated into the structure of higher education institutions.



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