

Review of the Allocation Model for  
Funding Higher Education Institutions

Working Paper 4: International Funding Allocation Approaches

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## 1) Introduction

This paper provides an overview of the different approaches to allocating higher education funding in international systems. It considers the common components which characterise most international HE funding models, and then looks at a series of different national approaches. We would like to acknowledge the work of Dr Bahram Bekhradnia in helping the development of this paper, both in his own paper 'Funding Higher Education in Ireland - Lessons from International Experience' (2015) for the Expert Group on Future Higher Education Funding, and from his presentation to the Review of the Funding Allocation Model Advisory Group on 21<sup>st</sup> November 2016. Other reports that have proved particularly useful in preparation of the following analysis are listed below.<sup>1</sup>

## 2) Common Components

As set out in Figure 1, the existing approach to funding higher education in Ireland shares many common components with other national systems. The principle of the block grant and institutional autonomy; emphasis on student-number, discipline-weighted and formula-based core funding systems; and the growing focus on a performance-based funding mechanism are shared across most of the models considered in this paper.

**Figure 1: Overview of Core Components of International Funding Systems**

Country	Block Grant and HEI autonomy	Primarily Student Nos Driven	Weighted by Discipline	Performance-Funding Agreement	Research & Access Funding within Core	Allocation model includes student fees
<b>Ireland</b>	Yes	Yes	Yes	Yes	Yes	No
<b>Australia</b>	Yes	Yes	Yes	Yes	Research only	Yes
<b>Norway</b>	Yes	Not directly	Not directly	Yes	No, research within performance component	N/a
<b>Netherlands</b>	Yes	Yes, but by graduates	Yes	Yes	Yes	Yes
<b>Wales</b>	Yes	Yes	Yes	No	Yes	No
<b>England</b>	Yes	Yes	Yes	No	Yes	Yes
<b>Scotland</b>	Yes	Yes	Yes	Yes	Yes	N/a
<b>Denmark</b>	Yes	Yes, but credit based	Yes	No	Yes, within weightings	N/a

<sup>1</sup> Bahram Bekhradnia: 'Funding Higher Education in Ireland - Lessons from International Experience' (2015); Ben Jongbloed: 'Funding Higher Education: A View Across Europe' (2010); and Harry de Boer, Ben Jongbloed, Paul Benneworth, Leon Cremonini, Renze Kolster, Andrea Kottmann, Katharina Lemmens-Krug and Hans Vossensteyn: 'Performance-based Funding and Performance Agreements in Fourteen Higher Education Systems' (2015).

For most countries, the funding allocation approach is driven by the annual budgeting cycle of government, distributing a predetermined pot of money to reflect the relative role of institutions within the respective higher education systems. Only Australia has adopted a method of fixing a normative unit of funding (i.e. a fixed level of funding per student) and then setting allocations on the basis of student numbers. However, until 2012, Australia limited student numbers to provide some overall budgetary control, as is the case in most other systems, and there have been significant financial implications since then. The Irish approach of allowing open-ended recruitment at the same time as operating a fixed budget is therefore fairly unique in an international context.

While the Irish approach has been different in this respect, it has evolved in recent decades in a similar way to other systems' institutional budget setting, moving away from 'negotiation', where budgets were agreed on the basis of higher education institution (HEI) submissions and dialogue. The latter approach left the process open to inconsistencies across HE sectors arising from legacy arrangements and special cases made by individual institutions. Increasingly, a formula-based approach has become the norm across Europe, reflecting the number, type and focus of study of students. The application of a single set of rules to all HEIs renders it a relatively straightforward, fair and transparent approach. At the heart of all funding formulae is the relationship between activity and price, with HEI allocations being:

- Based on some measure of **activity**, such as respective volume of student numbers, graduates or credits and differentiating between students with different (cost) characteristics. Systems also take into account the level of study and other policy-based differentiators to encourage different types of activity.
- Multiplied by **price**, with different prices for different subjects, generally differentiated by cost (which does not vary greatly between countries), but which can also take into account policy considerations (e.g. priority subjects).

There have been isolated attempts to shift to a more demand-side approach, whereby the student is given the public subsidy to invest in whatever course he/she chooses, such as in the voucher type system in Colorado.

Increasingly, the formula-based approach is being supplemented by formal performance contracts and/or performance-funding mechanisms, whereby an aspect of the funding available is either conditional on the delivery of a particular level or performance or is directly related to the performance achieved. Performance Agreements are contracts between the government and individual higher education institutions, which set out targets that institutions seek to reach within a specific time period. Many funding systems now incorporate a performance element (even if there is no formal Performance Agreement process in place), with a separate performance pot offered as an entitlement once set criteria are met, or as part of a competitive process that is designed to deliver on particular aims. Performance funding can be linked to individually negotiated performance indicators, or a common system of performance indicators. Where new and evolving objectives are set for the higher education sector via government policy, these tend to be embedded within the performance funding mechanism or through additional funding streams which sit alongside the core model.

Some systems that have introduced performance aspects to the formula-based block grant funding have tended to focus on one or two core areas: weighting allocations, for example, to penalise non-completion or to incentivise recruitment of access students. Such mechanisms can be directly related to the student base in order to remain consistent with the overall approach. Input-related factors such

as student numbers and historical allocations are still very important in Europe. No country has moved to a completely performance-based system, and there is no uniformity in choice of indicators for assessing performance. Some examples of performance indicators currently in use are bibliometric research indicators, number of employed graduates, and student feedback.

Limiting such performance criteria to a small number of student-linked areas within the core funding block is also consistent with the strong focus in international approaches on avoiding funding methods which are too detailed and complex, focusing too heavily on input costs rather than the outputs produced, which can encourage inefficiency. Hence, all but one (Norway) of the major systems considered use a formula-based system to allocate a block grant to each institution, which then has discretion, within certain parameters, to direct spend into areas which it feels will maximise its contribution, effectiveness and impact.

While there is a general acceptance across international funding models that they should focus on all publicly controlled funding, there are divergences in interpretation as to what constitutes public control. Student fees which are set by the state, for example, and where grants and loans are used to subsidise the student payment, could be seen as an intrinsic part of the funding allocation model and be taken into account when calculating the direct public investment.

Other common components of international funding models include top slices for specific national initiatives which a purely formula-based system will not advance, with the level of funding for this purpose typically under 10% of overall system investment. Most systems also have a 'safety net' to protect institutions from any sudden shocks in the level of funding received from year to year (as in the current moderating mechanisms used by the Higher Education Authority). The approaches to the inclusion of research and capital in core funding varies, although there is a common recognition that foundation funding for both purposes is essential to ensure a supportive research environment and adequately maintained capital stock.

Most countries' block grant funding includes separate teaching and research components, calculated on the basis of different criteria. Generally, block grant funding for research is shifting towards more output-focused (quality-based) block funding. Also, countries typically use research councils to allocate project funds to institutions by means of competitive project grants, which are often attached to specific priorities as selected by government or by the funding authorities. Thus, a dual-mode model whereby project funding coexists with core funding for research is commonplace.

### 3) Australia

The Australian system operates a block grant approach, underpinned by the principle of institutional autonomy, allowing universities to direct expenditure as they see fit, including cross-subsidisation to reinforce diversity of mission or strategic priorities where appropriate. (In this regard, it is worth noting that international students account for 17% of the student population and can also cross-subsidise provision substantially.) Australian HEIs receive funding via the Commonwealth Grants Scheme. The core funding received by HEIs consists of a base funding allocation reflecting volume of students and tuition fees received directly from the students themselves (although underpinned by an income-contingent loan scheme).

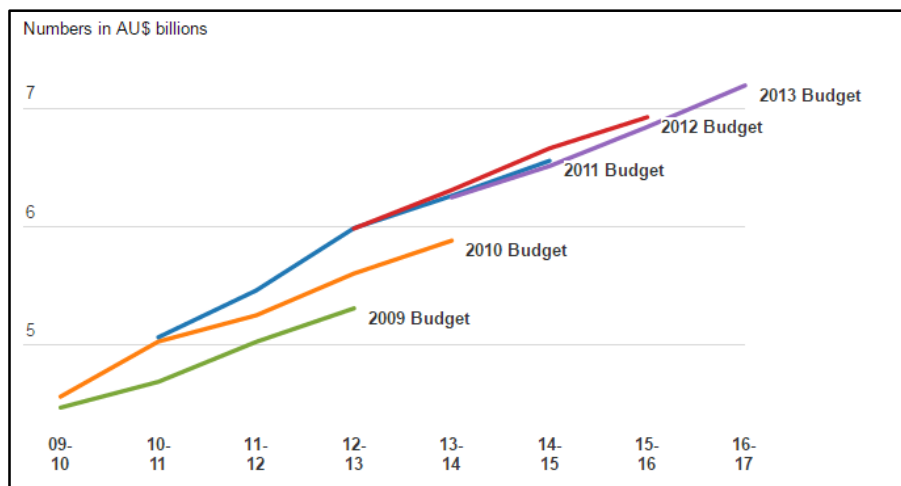
The **base funding** allocation is based on the following core criteria:

- Full-time equivalent numbers (including conversion of part-time student effort into FT equivalents).

- Weightings for different academic subjects, with 8 differently weighted price categories.
- Weightings in respect of specific types of students.

Until 2012, the government set a limit on the number of students that each university could recruit in each subject. However, since that time student growth has been unrestricted. This move to demand-driven funding has put the system under pressure, as highlighted in Figure 2.

**Figure 2: Estimated Cost of Demand Driven System in Australia 2009/10 to 2013/14**



There are also adjustments to base funding to take account of: regional loading and national priorities (focusing on particular courses, types of students, and specific regions). The amounts provided are dictated by government policy, but new initiatives tend to be supported by additional funding streams, with the funding base then modified accordingly.

Base funding is also intended to provide a foundation investment for research, with 5-10% being used to support **research activity**. The majority of funds that universities receive for research comes from the Australian Research Council (ARC). Funding for research is almost fully performance-driven; it is based on the volume of competitive research income received, the number of students completing a research degree, and the volume of research publications. The ARC manages the National Competitive Grants Programme (NCGP) and Excellence in Research for Australia (ERA) assesses research quality. ERA outcomes directly inform government funding under the Sustainable Research Excellence in Universities (SRE) scheme.

Australia was the first country in the world to introduce an **income-contingent loan system** to support tuition fees in 1989. There is a proposal in Australia to remove any cap on fee levels (currently postponed, though still on the agenda), which would move away from the concept of a normative level of base funding per student. Fees have risen steadily over the past 20 years both in absolute terms and as a proportion of the base funding. Australia provides non-repayable, means-tested grants in respect of students from poor backgrounds, but does not have an in-built access adjustment within the base funding allocation.

Australia also allocates funding on the basis of **performance** criteria, which are based on indicators and on negotiated outcomes. Discussions are held between government and individual institutions that are eligible for funding as part of the funding and governance process.

#### 4) Norway

There are three types of higher education institution in Norway: traditional universities; university colleges (little or no research); and specialised university institutions. Norway operates a block grant approach, with institutions having discretion to spend as they see fit, although this is a recent development from a previously tightly controlled system. Of those considered in this paper, Norway is the only country not to adopt a formula-based, student-driven approach to the setting of the block grant. Some 90% of HEI funding is from public sources (if income from research councils and other public bodies is included) and student fees have never been charged.

The majority of funding takes no **direct** account of objective measures such as volume of activity. Instead, it is based on historical allocations, with 60% being calculated on the basis of what was received the previous year. This basic funding component is intended to support stability and selected priorities (needs for a variety of disciplines, different regions, etc.).

Since 2002, Norway has also allocated funding on the basis of **performance** criteria, driven by common indicators and negotiated outcomes. Discussions are held annually between the government and individual institutions and the performance mechanism focuses on two components:

- The **education** component is based on the increase in student credits obtained and international students present. The performance element of this funding reflects policy concerns (to admit more students, shorten time taken to graduate, make it more internationally oriented). The varied cost of different subjects is recognised: students are weighted according to area of study.
- The **research** component is a fixed sum that is distributed competitively on the basis of number of doctoral candidates, research grants (EU and Norwegian), and publications. State-funded universities receive 22% of their funding through the research channel, but only 6% of university colleges' funding is related to research. The main sources of external R&D funding are the Research Council of Norway and the private sector (especially oil companies).

#### 5) Netherlands

Universities in the Netherlands are split into two categories, both of which are publicly funded: research universities and universities of applied sciences. One third of students attend research universities and two thirds attend universities of applied sciences. Public funds for both types of institution are distributed according to a funding formula, which includes a number of performance indicators.

The national budget for **research universities** is divided into a teaching component, a research component, performance funding and a component for medical education and research (linked to teaching hospitals). Of the teaching funding component:

- 65% is divided among the research universities in proportion to the number of students enrolled within the official length of a study programme and the number of degrees earned;
- 30% is divided on the basis of percentages per institution.
- 5% is allocated to the institutions for specific policy objectives, such as for quality, vulnerable programmes and special facilities.

Within the research funding component, 36% is allotted in proportion to the number of PhDs and degrees earned. The remainder is dispensed in the form of fixed amounts for each institution and an amount that is distributed on the basis of percentages per university. The grants given by the national government to the institutions are paid as a lump sum, with full autonomy on spending in performing their statutory duties. In addition to the government grant, a research university also receives tuition fees and depends on significant additional competitive research funding. The Netherlands

Organisation for Scientific Research (NWO) is the main national organisation that finances specific research projects.

The national funds earmarked for **universities of applied sciences** comprise an education component, a design and development component, and performance funding. The majority of the budget is divided among the institutions in proportion to the number of students enrolled within the official length of a programme and the number of degrees earned.

As with the research universities, the universities of applied sciences have discretion on the direction of public expenditure in delivery of their mission. In addition to the government grant, they also receive tuition fees and revenue from work performed for third parties, primarily contract teaching.

As a basis for **performance funding**, all (publicly financed) research universities and universities of applied sciences were asked prepare strategic plans for the years 2012-2016 to:

1. improve educational achievement.
2. strengthen their educational and research profile.
3. increase the impact and utilisation of research.

There was no obligatory format for the strategic plans, with one exception: on educational achievement, all HEIs had to formulate ambitions on seven indicators. The plans were evaluated by an independent committee which advised the Minister on approval of plans. Allocation of 5% of public funds for teaching in higher education has been made conditional on attainment of targets against the 7 compulsory indicators at institutional level and 2% is selective funding allocated to the most impressive and successful institutions. If a HEI fails to meet its targets on the 7 obligatory performance indicators, it risks losing a part of the conditional funding for the years 2017-2020.

Students have to pay **tuition fees**, *Collegegeldkrediet*, at all HEIs in the Netherlands. Tuition fees per year for EU students are €1,984 (full-time) and €1,706 (part-time). A new loan system was introduced in 2015/16 for students undertaking bachelor's and master's degree programmes.

## 6) Wales

The funding approach in Wales has been subject to significant evolution in recent years. It responded to major tuition fee changes in England and increased investment to support tuition fees for all Welsh-resident students, regardless of place of study. This significantly reduced the levels of state investment in Welsh institutions and it was recognised that a full review of higher education funding and student finance was required. This review was completed in September 2016 and it is expected that the recommendations will be implemented and will further shape the Welsh funding approach in the coming years.

The body responsible for allocating funding in Wales is the Higher Education Funding Council for Wales (HEFCW). Most of the funding is distributed as block grants to institutions, allocated by formula. These take account of various factors, including recruitment in academic subject categories, mode and level, and the amount of high-quality research undertaken in the institution. HEFCW operate four funding methods:

- Part time and postgraduate taught teaching funding method.
- Full time undergraduate and Postgraduate Certificate of Education (PGCE) Funding 2016/17.
- Quality Research (QR) funding method.
- Postgraduate Research (PGR) Funding Method.

New fee arrangements for full-time undergraduate and PGCE students were introduced in 2012/13 and, since then, an increasing proportion of the HEFCW budget has been allocated to cover the fee

grant cost for Welsh and EU domiciled students studying in Wales and Welsh students studying in the rest of the UK.

A core funding base is then allocated to all Welsh universities. For full-time undergraduate and PGCE learning, the following model applies:

- *Per capita*: The per capita amount (available in respect of all FT UG and PGCE students) for 2016/17 has been set at a rate of £5k per student. Payments have been determined on the basis of fundable enrolments according to 2014/15 Higher Education Statistics Agency (HESA) or WG Lifelong Learning Wales Record (LLWR) data, as appropriate, subject to the minimum 10 credit value study requirement.
- *Premiums*: The expensive subject premium (ESP) is allocated in respect of clinical medicine/dentistry and Conservatoire Performance Element provision. The higher rate ESP in 2016/17 will be retained at its 2015/16 levels. The allocations have been based on the two premium rates below, awarded per completed credit value.

Expensive subjects premium:

1. Rate 1: £80, applied to clinical medical/dentistry subjects (equivalent to academic subject categories (ASCs) 1b and 1d).
2. Rate 2: £30, applied to Conservatoire Performance Element (Performance Element provision in ASC 10).

HEFCW's part-time teaching funding method is based on student numbers across three dimensions: level, mode and subject. There are three levels: undergraduate (not franchised out), undergraduate franchised out and postgraduate taught; two modes: part-time and full-time (with full-time applying only to postgraduate taught provision); and 11 Academic Subject Categories (ASCs), some sub-divided. The collective term for a given level, mode and subject is a funding cell. Separate arrangements apply for funding postgraduate research training.

The universities in the UK receive a research budget that is based on quality evaluations established in periodic research assessment exercises. Institutions make submissions every 5-7 years, with the submission being made up of self-selected information from units of assessment within the institution (roughly equivalent to a department). Within each unit of assessment, individual researchers may only submit a fixed number of outputs for assessment, and assessment is by peer review. Initially, research grants were driven by scores in the periodic Research Assessment Exercise (RAE). In 2013, the RAE was replaced by the Research Excellence Framework (REF); in addition to assessing research quality, it also evaluates the societal impact of research. Under REF 2014, institutions were invited to make submissions in 36 units of assessment. The submissions were assessed by an expert sub-panel for each unit, working under the guidance of four main panels. The next research excellence framework will require universities to submit all research-active academics for assessment, according to a joint consultation document from the UK's four funding bodies on arrangements for the next exercise in 2021.

## 7) England

HEIs in England receive a teaching grant and a research grant; the teaching grant is based on student numbers, while the research grant is based on research performance (Research Excellence Framework, as well as project-based grants from the government research councils). England has no formally agreed performance contracts.



England has seen radical change in the funding of higher education in recent years with significant tuition fee rises and reductions in the level of state grant. Despite this, the system remains committed to a block grant system that maintains full institutional autonomy. The Higher Education Funding Council for England (HEFCE) allocates a grant to each English HEI, with the combined total of this grant and the tuition fees generated referred to as the teaching resource. To calculate the HEFCE grant for mainstream teaching for each institution, there are 4 stages:

- Stage 1: For each institution, HEFCE's model calculates a level of standard resource. This is based on each institution's profile of students, and takes into account:
  - the number of students
  - subject-related factors
  - a geographic factor (London weighting) intended to recognise the higher cost of operating in London

Standard resource is not, however, what HEFCE actually pays institutions, but rather a notional benchmark of what HEFCE thinks institutions' share of overall resource should be to reflect their teaching activities.

- Stage 2: HEFCE calculates the actual resource for the institution (called 'assumed' resource). This is based on the teaching grant that HEFCE actually paid to the institution for the previous year, adjusted for various factors such as inflation, plus an assumption of student tuition fee income.
- Stage 3: HEFCE compares the standard resource with the actual resource and work out the percentage difference between them.
- Stage 4: If the difference between the standard resource and the actual resource is no more than 5 percent (whether that is plus 5 percent or minus 5 percent), then the HEFCE grant will be carried forward from one year to the next. This plus or minus 5 percent margin is called the tolerance band and is the means by which HEFCE ensures institutions receive similar resources for similar activities without seeking to constrain them unduly. For institutions outside the tolerance band, their grant and/or student numbers need to be adjusted so that they move to within the tolerance band.

## 8) Scotland

The higher education sector is funded via the Scottish Funding Council (SFC), which is responsible for distributing funding to individual institutions for teaching, research and associated activities.

Unlike England and Wales, Scotland has maintained a commitment to free undergraduate tuition for all undergraduate students. It operates a system whereby a core teaching grant is allocated to institutions, with additional funding (equating to about a further 10%) made available for certain skills development objectives. The core teaching grant is based driven by weighted FTE student numbers, across 6 price groups, ranging from £5,190 to £16,454. This reflects the additional compensation required for expensive controlled clinical subjects (medicine and dentistry) and higher-cost strategically important subjects including science, engineering, veterinary science and design and creative arts. The teaching grant is closely linked to an Outcome Agreement; given this connection, institutions are prompted to align their education provision with national priorities and regional labour market needs.

Additional funding has been provided for widening participation, aiming to increase places by a further 680 per annum and an additional 1,118 places via particular access schemes. Additional funding for

815 places at taught postgraduate level to target skills development was provided in 2013/14 and these places are now paid for via the gross unit of resource.

Block grant funding for research is delivered via a Research Excellence Grant of £231.8m, with £34.5m provided via the Research Postgraduate Grant and £12.2m via a University Innovation Fund. The research block grant supports quality under the Research Excellence Framework (REF) and is allocated on volume, quality and subject cost on a weighted basis.

## 9) Denmark

Funding of teaching and research are funded separately in Denmark. Funding of higher education and research in Denmark is a mixture of contracts and negotiations, incremental historical allocations, formulae and performance indicators. Tertiary education is free for students and there is a generous student loan system for living expenses. Higher education institutions are 95% publicly funded, with the majority provided by the Ministry of Higher Education and Science. Universities are funded through two main sources: basic block funding and external income. Block funding is allocated on the basis of a 'taximeter system', based on per-student grants to institutions. The grants are calculated primarily on the recorded number of students passing examinations (i.e. obtaining credits). The taximeter rate (specified by law) varies according to subject field and level of education. Assumed tuition fees range from €6,000 to €16,000.

A core research funding allocation is provided to HEIs on a formula basis, driven by level of externally generated research funds, number of PhD graduates and bibliometrics. Institutions receive a share of the funding pool in accordance with their share of across these indicators.

There is no dedicated performance-funding mechanism as has been established in other systems, although the core funding model does take account of completion rates and research success as noted above. Since 1999, university development contracts have been established, but there is no automatic link between these performance targets and grants awarded by the government. Rather, these contracts are treated as 'letters of intent'.

For students, there are two main forms of support for living expenses: state grants and also state loans (about 50% of students make use of state loans). Also, state education grants can be awarded for a study period abroad.