

Review of the Allocation Model for Funding Higher Education Institutions

Final Report
by the Independent Expert Panel for the



December 2017

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Foreword

Higher education plays a critical role in the development of our young people, in providing the skilled workforce to meet society's needs and in supporting lifelong learning for all. The importance of investing in higher education has been recognised by successive governments, leading to higher levels of participation and broadening of access over recent decades. During the financial crisis, however, funding levels were reduced while student numbers continued to increase, reflecting demographic changes and participation levels. This resulted in a major funding challenge for higher education institutions. Ireland needs to urgently address this with substantial investment if we are to maintain the quality of our higher education system and the student learning experience. These issues have been analysed in depth in the report published in March 2016, 'Investing in National Ambition - A strategy for funding higher education', often referred to as the Cassells report.

Having been a member of the group behind the Cassells report, I was pleased to be invited to chair an independent expert panel to further one of its recommendations – 'that the HEA should review the current allocation mechanism for block grant funding, in consultation with relevant stakeholders to ensure that it is structured so as to support overall priorities and objectives of the system'.

Sincere thanks to the members of the panel appointed by the HEA who gave generously of their time, expertise and experience:

- Professor Sir Ian Diamond, leader of a major international university and a reformer directly involved in developing new funding approaches in England, Wales and Scotland
- Professor Philip Gummett, a former head of the Higher Education Funding Agency for Wales with an intricate understanding of international funding approaches and
- Mary Kerr, former Deputy CEO of the HEA who developed and oversaw the current funding model and brought an in-depth understanding of how changes in the model could impact on individual institutions and the overall system

We were assisted in our work by an engaged Advisory Group representing a diverse group of stakeholders. Participants put aside their sectoral and potentially contrasting views to work collectively to identify a strategic way forward for the HE system and how it can best support and connect with Ireland's wider society and economy. We also consulted widely with those involved with higher education in all its aspects, in the public and private sectors, and benefited enormously from the insights gained. The panel greatly appreciated in-depth engagements with Ministers Bruton and Mitchell O'Connor and their officials in the Department of Education and Skills. Their passion for higher education, its pivotal role in Ireland's growth and prosperity and the need to invest in its future is evident.

We are particularly grateful to the HEA executives and broader team who engaged with the process in a truly collaborative way and worked tirelessly to provide technical support, modelling and analysis to support our decision-making.

Ireland's higher education needs are met through a diverse range of regionally dispersed institutions. While these institutions have distinct individual missions, there is also a clear sense of a cohesive system with a common purpose, helped by its relatively manageable size (24 public higher education institutions), a clear policy direction from Government; and a strategic dialogue and performance framework that helps to steer higher education towards critical objectives. We were struck by the strength of this system, the increase in participation rates and the continuing commitment to improving access throughout the system.

With the support of stakeholders and the strong foundation on which we have to build, we believe this review provides an exciting opportunity to deliver a reformed and enhanced higher education system. This is not purely a technical exercise, applying marginal changes that shuffle existing resources around a complex and multi-layered system. Instead we propose a lever for significant change with lasting impact on the system, how it supports students and generates the outcomes we need to flourish as a society and an economy.

With the right conditions, and if fully implemented, we believe our recommended approach offers a vision to:

- embed lifelong learning at the heart of Irish higher education provision
- recognise and respond to the demographic challenges and changing patterns of student demand
- improve access to higher education and so drive social and economic progress
- support research and innovation in underpinning excellence in higher education
- ensure funding can be channeled effectively to support skills development
- enhance institutional development and overall system effectiveness and
- reward institutions for delivering the required outcomes and impact.

Our recommendations can deliver much-needed change but can only be fully implemented if supported by increased investment. Our engagement with relevant state agencies and employer representative bodies reinforced our analysis that the system is performing well under strain, but without additional investment will struggle to maintain the quality of provision. Ireland cannot continue, as we have been, increasing student numbers without a commensurate increase in investment. Increased investment is essential to align our higher education system with our national ambition for growth and employment and with the wider needs of society. We are convinced that increased investment supported by a reformed approach to allocating funding will deliver real and sustainable benefits for our students, our society and our economy.

**Brid Horan,
Chair of the Expert Panel**

Executive Summary

This review presents an exciting opportunity to deliver a ***reformed and enhanced higher education system***. As an independent Expert Panel, we have been driven by a desire to ensure that it is not merely seen as a technical exercise, applying marginal changes that shuffle existing resources around a complex and multi-layered system. Rather it can serve as a ***lever for significant change in key areas that have a lasting impact on the nature of the system, the way it supports our students and generates the outcomes we need to flourish as a society and an economy***. With the right conditions, and if fully implemented, we believe that it offers a future vision to:

- ✓ **embed lifelong learning at the heart of Irish higher education provision.** Institutions will receive greater reward for providing such opportunities, with part-time weightings applied across the entire state and student funding contributions and targeted investment to build digital learning capability.
- ✓ **recognise and respond to the demographic challenges and changing patterns of student demand.** The model will move away from the rigid fixed budget proportions allocated to university/college and IoT cohorts to a fluid two pot system which can respond to changes in student demand. The introduction of a minimum standard unit of resource, linked to delivery of objectives within the system performance framework, will ensure that funding per student does not decline further and that the system has capacity to accommodate the expanding student base.
- ✓ **reinforce the critical importance of access to higher education in driving social and economic progress.** Access weightings will be applied across a wider base of state funding, part-time access students will be included within the funding model for the first time, a new access data strategy will drive allocations and there will be greater transparency on how access funding is directed within institutions.
- ✓ **acknowledge the importance of research and innovation in underpinning excellence in higher education.** The university allocation on the basis of research and innovation performance will double in scale, while we propose the introduction of a similar allocation for the IoTs for the first time. These allocations will be driven by a wider base of outcome metrics, including knowledge transfer indicators, while the issue of funding research overheads will be resolved via a cross-agency, cross-department and cross-institutional approach.
- ✓ **ensure that funding can be channelled effectively to support skills development.** A clear mechanism to direct funding towards skills development will be established within the model and the STEM disincentive which has arisen from the changing higher education funding profile will be removed by applying weightings across all student and state contributions. There will also be an increased role for competitive funding programmes to target particular skills needs.
- ✓ **reward institutions for delivering outcomes and impact.** Performance will be embedded across every aspect of the funding model, while the introduction of a rewards based performance funding system will recognise success in areas such as student progression and employability. Sectoral performance compacts will be introduced to ensure shared institutional responsibility for delivering on wider system goals and the creation of a new transformation fund will drive system innovation and change.

While ***preserving institutional budgetary autonomy to ensure that each can remain agile and responsive*** to evolving national and regional needs, we have set out a future direction that should ensure higher education remains a pivotal driver of economic and societal development in Ireland. It will facilitate a clearer relationship between the funding approach and targets set for the overall

higher education system as it contributes to the ***realisation of Ireland's stated ambition to be the best education system in Europe***. This will be underpinned by ***a new consistent and comparable costing approach*** which will ensure that the funding model can recognise the different and developing cost drivers in different institutions and respond accordingly.

The ***funding model itself will be more transparent and structured***, comprising a ***range of allocation channels*** to provide greater clarity on the rationale for particular funding. It should also support a more consultative approach, where plans for investment can be clearly identified in advance to facilitate discussion with the system and other key stakeholders, and will allow particular areas of development to be targeted (e.g. particular national skills gaps) as additional funding becomes available. Our more transparent approach will also allow the Government to invest with confidence in reinforcing the core resources available to institutions, while introducing new targeted funding strands to address particular challenges. Given the urgent need to ensure the sustainability of the sector, we would suggest a balanced approach to allocating additional resources between core and targeted new strands.

The ***diverse nature of the individual HEI missions is an essential strength of the Irish higher education system***. Nonetheless the differing characteristics, capabilities and challenges faced by individual institutions prompt careful consideration of how they should be funded. We have recognised these differences in a number of our recommendations (e.g. enhanced research and innovation allocation for universities, new research and innovation allocation for IoTs, ring-fenced funding to recognise costs of running multiple campuses, pension and transitional support for specialist colleges). However we have concluded that some wider issues, such as greater recognition of the IoT regional access role, or financing research overhead costs, can only be fully addressed following further work on costing and development of a multi-stakeholder solution.

We also recognise that there are important differences in the capacity of individual institutions to generate non-Exchequer income, whether that be via international student and postgraduate fees, philanthropic donations, industry collaboration, commercial activities or other ancillary revenue. However it is our strong view that the model should not, in any way, disincentivise the generation of non-Exchequer revenue as this will be an essential component in the future sustainability of all institutions. Nonetheless there is a ***need to build capability in many institutions to diversify their revenue base*** and we recommend a targeted investment in this area. There is also an urgent need to resolve issues which restrict institutions from borrowing, as this severely undermines the system's ability to accommodate future student demand.

While there are recommendations set out in this report that should be implemented immediately to address clear issues and drive necessary change, transitioning successfully to the proposed new model will undoubtedly require additional resources. The level of funding for higher education was outside our terms of reference, but having analysed system finances, operations, performance and outcomes, it is the clear view of the Expert Panel that ***Ireland cannot continue to increase student numbers without a commensurate increase in investment***. The Investing in Ambition report by the Expert Group on Future Higher Education Funding set out the scale of the additional finance required to sustain the system, but was also clear about the need for a reformed funding model in return. We believe that the recommendations in this review deliver the reform sought, but will require increased targeted investment to maximise their impact, and we identify where they are conditional on such funding in order to progress.

There are also, of course, a number of other interdependencies that will influence the organisation, operation and performance of the system and hence the ability of the proposed future funding model to drive development. These include:

- The ***lack of institutional flexibility*** to deploy human resources effectively and adapt operations to maximise performance and respond to evolving needs.
- The ***need to influence student behaviour and choices*** in accessing appropriate higher and further education opportunities via demand-side policy initiatives.
- The ***current significant capital deficit***, with adequate infrastructure required to maintain a quality campus environment and accommodate the projected increase in student demand.
- The ***role of the further education sector*** in meeting Ireland's evolving skills needs, and the capacity to develop more integrated pathways between that sector and higher education.
- The ***ability of employers to articulate their current and projected skills needs*** via national and regional skills advisory infrastructure.
- The ***continued reform of the Irish higher education landscape***, with the potential creation of a new type of institution, the technological university, as a product of mergers between IoTs.
- The ***challenges and opportunities presented by the post-Brexit environment*** in areas such as student and academic mobility, international education provision, and research collaboration and funding.

While we cannot predict how these will develop, they reaffirm the importance of ongoing monitoring and review of the model to ensure that it adapts to the changing landscape. We propose the establishment of an implementation group, chaired by the HEA and involving the Department of Education and Skills, the IUA and THEA, to oversee the delivery of these recommendations and take account of such developments. The continuation of a moderating mechanism to control sudden changes to institutional funding levels will further help to ensure a smooth transition. Finally, the HEA will have a critical role in continuing to evolve the funding model and its components as the need arises, using the guiding principles set out in this report to inform its decision making.

1. Introduction and Overview of the Approach

1.1 Introduction

This final report sets out the findings from the review of the Higher Education Authority (HEA) allocation model for funding higher education institutions. Since the review commenced in late November 2016, we have built up a base of analysis and consultation with a wide range of key stakeholders to understand the existing situation, the future challenges faced by the higher education system in Ireland and the potential options for delivering a more effective funding model.

The report sets out the comprehensive review process undertaken, our overall analysis of issues and priorities, the core principles which must underpin the future funding approach, and our conclusions and recommendations for the future. While we acknowledge that the nature of the subject matter and indeed the wider higher education system necessarily involves technical and distinct terminology we have tried to ensure that this report is clear and accessible to all, regardless of whether they are involved in the higher education system. To further assist the reader, we provide a glossary as Appendix 1 of this report. We would also like to draw your attention to a series of Working Papers produced during the exercise to help focus analysis and consideration of options across a range of core themes (the papers can be accessed by clicking on the link embedded within each title):

Working Paper 1:	The Higher Education Sector in Ireland
Working Paper 2:	National Strategic and Policy Context
Working Paper 3:	Current Funding Allocation Model
Working Paper 4:	International Funding Allocation Approaches
Working Paper 5:	Key Issues and Questions
Working Paper 6:	Cost Drivers and the Costing System Underpinning Higher Education
Working Paper 7:	The System Performance Framework and Performance Funding
Working Paper 8:	Funding Research, Innovation and Enterprise Activity
Working Paper 9:	Supporting Access and Retention
Working Paper 10:	Funding Teaching and Learning Activity
Working Paper 11:	Key Themes from the Consultation Process

This report is designed as a standalone document that draws on the above sources. Nonetheless the papers serve as a useful reference point in understanding how our thinking has evolved and conclusions have emerged.

1.2 Terms of Reference

The review was undertaken by an independent expert panel, with short biographies of each member provided as Appendix 2. [A scoping paper](#) was prepared to set out the background and context for the review, the methodology to be followed, project management and governance arrangements, and the following terms of reference:

- review the existing approach to funding higher education institutions by the HEA in terms of its effectiveness in delivering on national objectives; reinforcing mission diversity; ensuring sustainability and quality; and driving performance
- identify and consider options regarding how that approach is developed in order to reflect the principles which must underpin future funding of higher education, including the appropriate

balance between the three different components of the current funding model (block grant; performance funding component; top-sliced targeted or competitive funding)

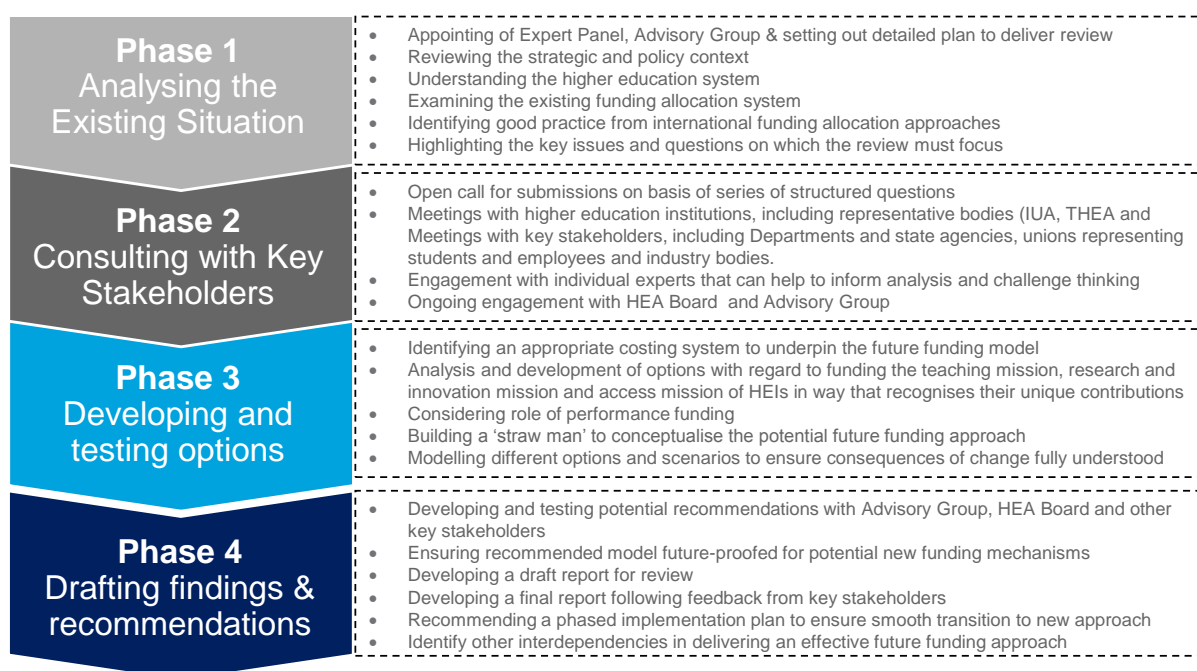
- make recommendations on an appropriate future approach and on an implementation timeframe to protect short-term financial stability

We have been assisted in our work by the HEA executive which served as Secretariat for the Review, and by an Advisory Group representing a wide cross-section of relevant stakeholders which have provided critical feedback at key points during the review process. The members of this Advisory Group are listed in Appendix 3.

1.3 Overall Approach

The review was structured across four distinct phases as set out in Figure 1.1. We began by developing our understanding of the existing situation, considering the higher education system, the current national policy context, the existing funding model and how this compared with international approaches. This allowed us to identify a range of key issues and questions which we recognised that the review must address, helping to develop a series of structured questions that underpinned a comprehensive programme of consultation during the second phase of the review.

Figure 1.1: Overview of the Review Approach



This consultation programme comprised:

- An open call for structured submissions across 11 themes, with 54 submissions received. Of these, 41 were submitted on behalf of organisations, and they are listed in Appendix 4.
- Bilateral meetings between the Expert Panel and higher education representative bodies (IUA, THEA and HECA) and relevant networks (Presidents, Chief Financial Officers and Access Officers)
- Meeting with the Minister for Education and Skills to discuss key policy priorities.

- Bilateral meetings between the Expert Panel and key stakeholders, including government departments and state agencies, unions representing students and employees and industry bodies. A full list of stakeholders met is provided as Appendix 5.
- Feedback from the Advisory Group, which includes a range of key stakeholders.

At the end of this phase, the analysis of the existing situation and the key themes emerging from the consultations were set out in an [interim report](#). Work then commenced on the third phase of the review, using the detailed analysis and constructive input from stakeholders to develop options for the future development of the model. This considered potential approaches with regard to the costing system, the teaching mission, recognising research and innovation performance, supporting access and the performance funding approach. In parallel, the potential scenarios in pursuing each of the options across the funding models were extensively modelled to test the implications at both institution and system level. This allowed us to evaluate the options and propose a recommended future approach within this final report.

We also worked closely with the Higher Education Authority itself throughout the process. The Board of the HEA approved the initial scoping paper and terms of reference for this work and provided input at key stages during the review, supporting the development of options and ultimately approving the conclusions and recommendations set out in this report. We were further assisted by teams across the HEA, tapping into the knowledge of the Irish system and its institutions in relevant areas including funding, performance, access, skills development and research.

2. The System and its Strategy

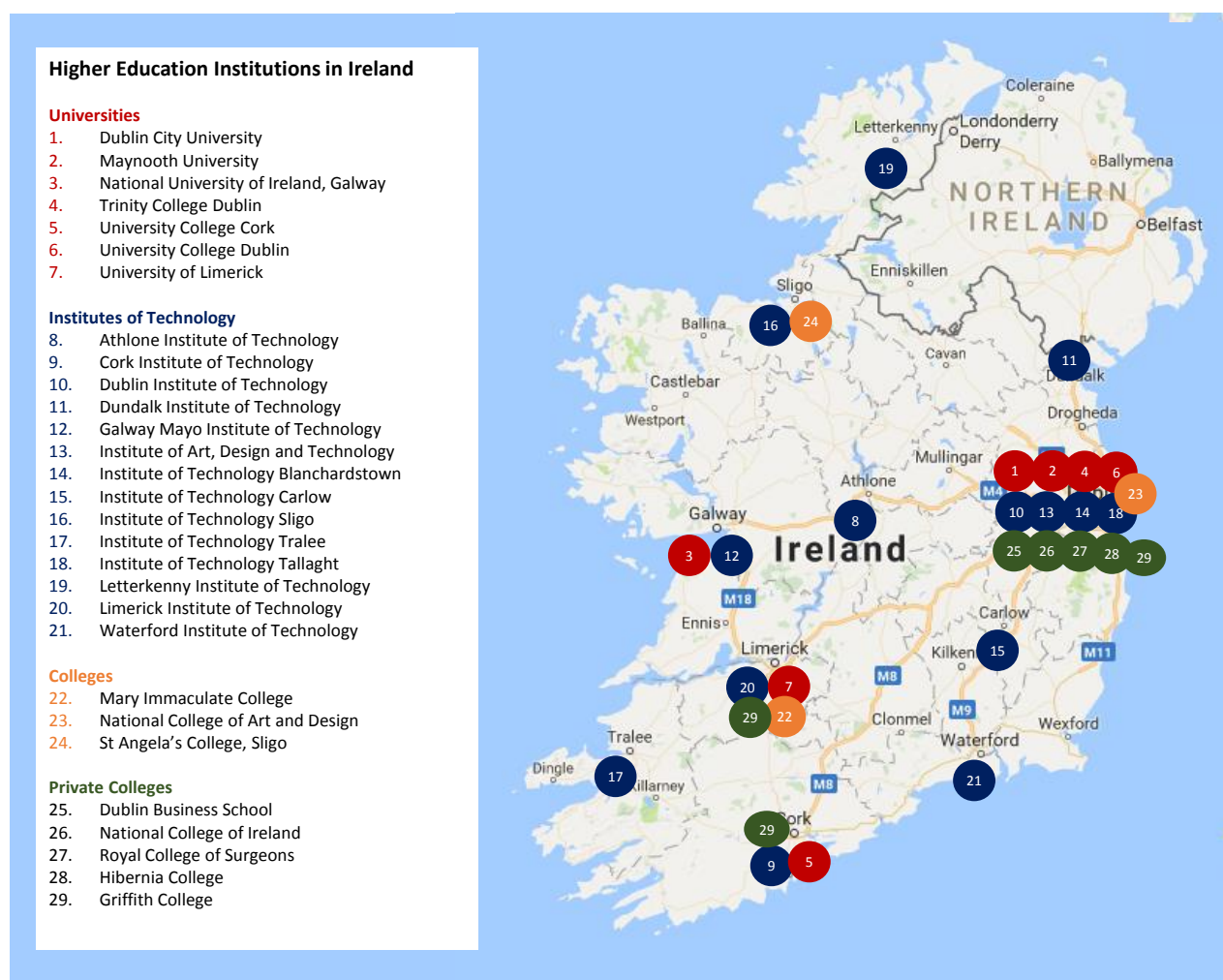
2.1 The Higher Education System in Ireland

2.1.1 Higher Education Institutions

There are more than 40 higher education institutions in Ireland. The focus of the funding system is on the 24 that receive a core funding contribution from the HEA – comprising 7 universities, 14 institutes of technology and 3 specialist higher education colleges (two focused on teacher education and one on art and design). These 24 are typically referred to as the public higher education institutions. However other institutions, with both private and not for profit status, access some public funding from the HEA for specific courses (e.g. medicine, pharmacy) or by winning competitive calls (e.g. to run skills courses through the Springboard programme), or via the Department of Education and Skills in recognition of a particular remit.

The 24 core-funded institutions are set out in Figure 2.1 along with some of the main private colleges. Regional access and economic development have been major drivers of higher educational policy and provision has been established in all corners of the country. Indeed, a characteristic of Irish higher education institutions (HEIs) is the largely regional catchment area on which they draw their student base.

Figure 2.1: Higher Education Institutions in Ireland



The institutions vary significantly in scale, from 1,300 enrolments in St Angela's College to almost 27,000 in University College Dublin. In response to the small scale of some HEIs, there has been a process of consolidation across the higher education system, with four specialist teacher training colleges merging with a University (St. Patrick's Drumcondra, Mater Dei, Church of Ireland College of Education and Froebel College), and further such incorporations planned. There is also a process in place by which institutes of technology can merge and apply to become technological universities, with legislation to formalise the establishment of these new types of institution planned for 2017. This change will not impact upon the continuing Government commitment to maintaining a binary system of higher education, with distinct technological institutions functioning alongside more traditional university provision.

2.1.2 The HEA Role and Other Oversight Bodies

The HEA leads the strategic development of Irish higher education and research with the objective of creating a coherent system of diverse institutions with distinct missions. This system seeks to be responsive to the social, cultural and economic development of Ireland and its people and support the achievement of national policy objectives.

The HEA has further responsibility for the effective governance and regulation of the higher education system and its institutions. In exercising its mandate, the HEA works to ensure that:

- It has due regard to institutional autonomy and academic freedom.
- Responsibilities with regard to governance and accountability are clearly understood and set out in an overall governance framework for the higher education system
- Institutions comply with all governance and legislative requirements and report annually in this regard
- Institutional strategies are aligned with national strategic objectives.
- Agreed objectives, based on those set out within a national framework defined by the Minister for Education and Skills, and detailed in compacts with institutions, and delivered through effective performance management at institutional and system-levels.

Quality and Qualifications Ireland (QQI) is the public-sector body responsible for maintaining quality and assurance in education provision and developing and promoting the Irish National Framework of Qualifications (NFQ). It validates awards at levels 1-10 based on level of knowledge, skill and competence. Higher education awards are those that are considered Level 6 and above on the NFQ.

There are other organisations involved in monitoring the activities of the sector with regard to research, innovation and enterprise. Enterprise Ireland funds technology transfer, business incubation and entrepreneur development programmes within the HEIs and tracks performance accordingly. Within Enterprise Ireland, Knowledge Transfer Ireland (KTI) oversees knowledge transfer activities in institutions and intellectual property policy implementation. Research funding agencies also ensure accountability for competitive funding awarded to HEIs, including Science Foundation Ireland (SFI) and the Health Research Board (HRB).

2.1.3 The Student Base

In 2015/16, there were 222,618 student enrolments in public higher education institutions in Ireland, with 54% attending universities, 40% attending IoTs and 6% attending a specialist college. Some of the key characteristics across this student base are discussed below.

Participation in higher education in Ireland is high and growing strongly. Tertiary attainment for the population stands at 41% compared to the OECD average of 33%.¹ With a target of 60% tertiary attainment among the 30–34 age group by 2020, Ireland has set itself the second highest target within the EU. It has been moving steadily towards this target from an initial 27.5% in 2000 to 52.3% in 2015.²

Demographic growth has fuelled, and will continue to fuel, significant increases in student demand. The number of students in publicly funded institutions has increased by approximately 2% per annum since 1965, when there were just 25,000 students in higher education. To maintain participation rates, the system must grow by around 25% to 2030 given current demographic projections.

Part-time and remote learning has not grown at the same rate as full-time undergraduate provision. Examining the composition of enrolments, 80% are full-time, 17% part-time and 3% remote. Part-time enrolment has increased at a lower rate than full-time since 2000. Of full-time enrolments, 87% are undergraduates and 13% postgraduates. Postgraduate research numbers have begun to increase again after a period of decline which coincided with the recession.

Access to higher education by all groups in Irish society has increased. As a proportion of new first year enrolments, students with a disability have grown from 7% to 12% from 2012/13 to 2015/16, while students experiencing socio-economic disadvantage have grown from 20% in 2011/12 to 26% in 2015/16. However blackspots remain, particularly in urban locations, and further progress is targeted. There is also relatively low progression from further education to higher education, with just 6.6% of new entrants admitted on the basis of a further education award.

There have been changing patterns of demand by level and nature of study. Take-up of Level 8 (honours degree) qualifications has expanded more rapidly than of Level 6/7 courses. Between 2007/08 and 2015/16, enrolments in areas such as information and communication technologies and natural sciences, mathematics and statistics are growing while engineering, manufacturing and construction are declining.

Employment rates of graduates have risen significantly in recent years, with 62% of Honours Bachelor Degree graduates in 2015 gaining employment within 9 months of graduation, compared to 45% in 2009, mirroring the wider recovery of the economy.

The internationalisation of the Irish higher education system has been a key focus throughout the last 20 years. In 2015/16, there were around 19,000 international students, approximately 11% of the overall base, an increase from 7% in 2012/13. However this figure remains below the OECD average and considerably below high performers such as Australia, the USA, the UK and New Zealand. This is supplemented by 7,500 Erasmus students from abroad each year.

2.1.4 The Staffing Base

There were 17,699 core academic and professional/administrative staff in Irish public higher education institutions in 2015. This was supplemented by temporary research and specialist staff of 4,882, bringing overall staffing levels in the sector to 23,544. Since 2008, an Employment Control Framework (ECF) has been in place which has driven core staffing levels down by 12%. To meet ECF targets, there has been a growing tendency in some institutions to deploy part-time and casual staff which are categorised as ‘non-core’ to accommodate increased student demand. The academic and

¹ OECD: *Education at a glance 2015: OECD indicators*, 2015.

² HEA: *Higher Education System Performance 2014–2016*, 2016.

professional/administrative split between universities and IoTs is notably different, with 47% of core staff in universities in the academic category, against 61% in IoTs.³

Pay costs account for most higher education expenditure, ranging from 60-70% in universities and 72-80% in IoTs. The HR tools available to manage staffing and costs are limited given employment controls, state oversight and funding of pensions and national labour agreements.

The pressure placed on the sector from decreased staffing at a time of increased provision is clear, and there are concerns about the adverse impact on quality of under-staffing and wider under-resourcing. As presented in Table 2.2, staff-student ratios in the HEA-funded institutions have deteriorated significantly in recent years, rising from 1:15.6 in 2008, which was in line with the current OECD average,⁴ to a ratio of 1:19.8 in 2013/14. While it is difficult to pinpoint declines in quality, there is anecdotal evidence from institutions of reduced laboratory exposure or levels of practice-based teaching due to staffing pressures which clearly impact upon the learning experience. QQI also identified an increased prevalence of quality issues within the system in a recent report.⁵

Table 2.1: Staff-student ratios, 2007/8 to 2014/15

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
WTE student numbers (full-time + part-time/2)	158,057	164,180	173,723	177,329	179,105	181,308	185,760	188,060
WTE core staff numbers	19,500	19,411	18,524	18,321	17,899	17,604	17,771	17,059
WTE academic staff numbers	10,100	10,041	9,772	9,697	9,418	9,297	9,364	9,040
Ratio of academic staff to students	1:15.6	1:16.4	1:17.8	1:18.3	1:19.0	1:19.5	1:19.8	1:20.8

2.1.5 The Research System

Ireland's research system has been transformed over the last 20 years and is now respected internationally in terms of talent and impact of innovation. This was stimulated by a significant Government investment programme (aided by major philanthropic investment) via the Programme for Research in Third Level Institutions, where €1.2bn was channelled to build specialist research capability across the sector from 1999. In parallel with the development of this programme, Science Foundation Ireland was established to target investment in science-based research activity, while research councils were set up for the first time to focus on humanities and social sciences (IRCHSS) and on science and engineering and technology (IRCSET) respectively. Since that time several successful research centres of scale have been established, generating significant European and private funding and demonstrating impact on economy and society. Support infrastructure for knowledge transfer and enterprise development has also expanded significantly across higher education.

Following these developments, the current system of funding research and innovation across the higher education in Ireland can be summarised as follows, with an overview of the relative funding commitments set out in Figure 2.2:

- The HEA provides a foundation investment for research excellence within the block grant provided to institutions. Although universities have discretion to spend the grant as they wish, it is estimated that around €146m of HEA core funding supports research capability.

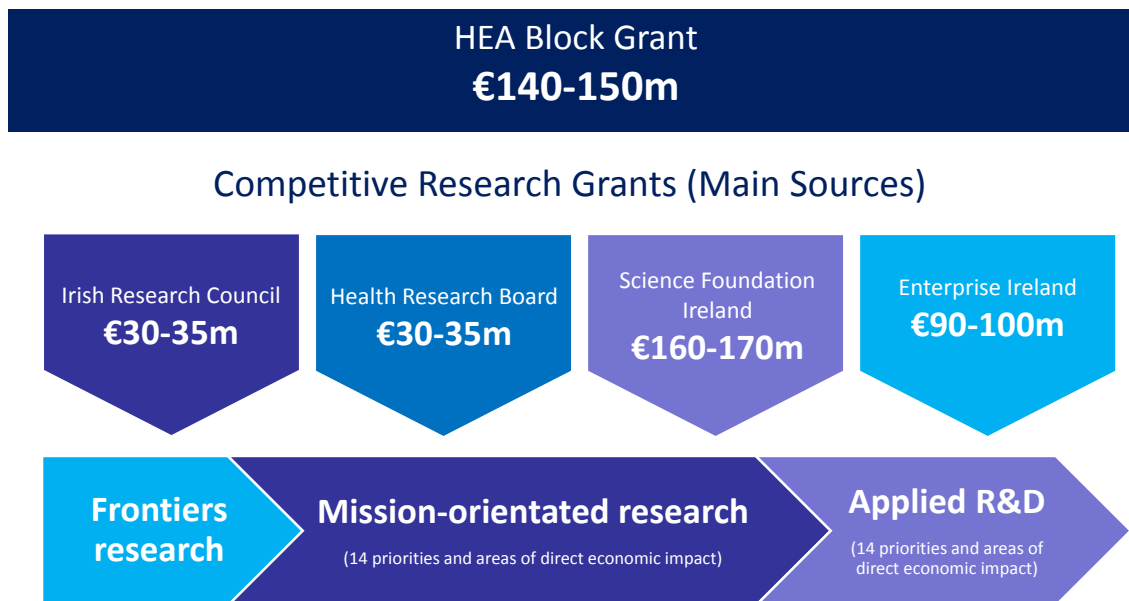
³ HEA: *Key facts & figures 2015/16*.

⁴ OECD: *Education at a glance 2016: OECD indicators*, B3.3. Ratio of students to teaching staff in educational institutions (2013 data).

⁵ QQI: *'Quality in an Era of Diminishing Resources', Irish Higher Education 2008-15*, March 2016.

- The Irish Research Council (which is the product of a merger between the two previous Councils), funded by the Department of Education and Skills, supports postgraduate and postdoctoral awards and research teams on a competitive project basis.
- Science Foundation Ireland, funded by the Department of Jobs, Enterprise and Innovation, invests in research centres and researchers in STEM areas and has created a network of 16 collaborative research centres across the system.
- Health Research Board, supported by the Department of Health, funds, coordinates and provides oversight for health and medical research across Ireland.
- Enterprise Ireland, funded by the Department of Jobs, Enterprise and Innovation, supports a range of interventions within the HE sector focused on knowledge transfer, commercialisation of research and enterprise development.

Figure 2.2: Overview of Irish Research and Innovation Funding Landscape



This system has been successful in significantly improving Ireland’s global reputation for research and innovation. For example, Ireland ranked 1st in the EU Commission Knowledge Transfer Study in 2013 and 6th in the EU Innovation Scoreboard in 2016. There has been strong engagement by Irish institutions in European research programmes, with higher education accounting for 57% (€221m) of the €368m secured by Ireland from Horizon 2020 to February 2017.

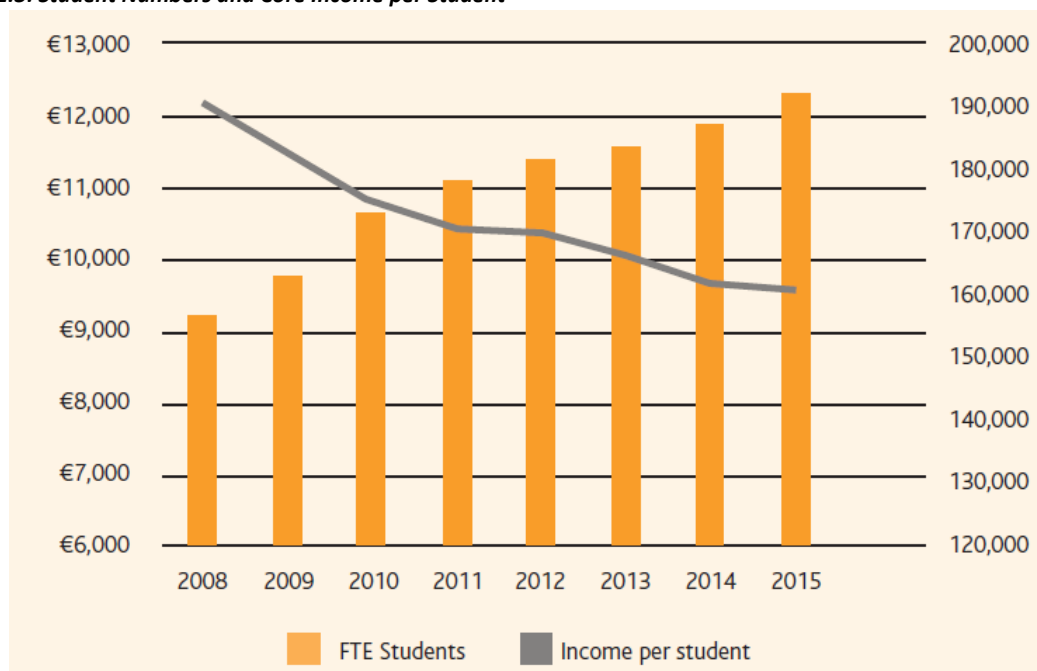
Beneath this strongly performing research system, there are some concerning trends. The level of investment in higher education research and development (HERD) shows a decline since 2008, reflecting the wider financial pressure on the system. The need to reinvest and reinvigorate the research infrastructure in place in institutions is acknowledged, and a Cycle 6 of PRTL is planned, although its exact format is still being discussed by the relevant Departments. There is also concern about the sustainability of research funding, and particularly the ability of institutions to absorb the significant indirect overhead costs of delivering competitive research funding projects.

2.1.6 System Funding

The adequacy and mechanisms of funding for higher education have been the subject of much debate. A major review was undertaken by an Expert Group, chaired by Mr Peter Cassells, to advise on options

regarding the future sustainable funding of the sector. The report produced identifies system sustainability issues stemming from the significant contraction of state investment in higher education, declining 38% from €2bn in 2009 to €1.3bn in 2016. At the same time, the number of students increased by approximately 34,000. The decrease in state funding was compensated somewhat by an increase in student contribution, which currently stands as €3,000 per annum. However, even when this is considered, overall funding per student declined by c. 20% over eight years from 2008 to 2016, from over €12,000 to under €10,000 (see Figure 2.3). Indeed, the latest international comparator figures indicate that expenditure on tertiary education in Ireland (including both public and private spending) was 1.2% of GDP in 2013, below the OECD average of 1.6%.

Figure 2.3: Student Numbers and Core Income per Student



The decline in public funding is having a serious impact on the financial position of the institutions. 12 institutions were in deficit in 2016, and the problems are particularly apparent among the IoTs. A recent financial review of the technological sector revealed that 6 institutes face immediate sustainability challenges, with a further 4 potentially at risk due to limited reserves and current or projected deficit positions.⁶ Overall reserves fell from €132.5m to €78.7m over the period, wiping out 40% of the finance available to underpin ongoing sustainability and development. At an aggregate level, the IoT sector is in deficit and this trend is projected to continue over the next 5 years. In the university sector, the latest audited accounts also show an aggregate deficit. The universities have significantly reduced their dependence on exchequer income, with the proportion of funding sourced from the state decreasing from 73% to 48% from 2008 to 2015, but overall operational challenges remain, and 4 of the 7 are projecting deficits for 2017.

The lack of capital investment in higher education in recent years is also a major risk to system sustainability. Pressure to accommodate additional demand in the schools sector led to a moratorium on new capital projects in the HE sector in November 2011.⁷ With a higher education capital stock of €8 billion, investment levels have fallen far below the 2.5% to 3.5% of this value required each year to

⁶ HEA: *Financial Review of the IoT Sector*, 2016.

⁷ Letter from the Department of Education and Skills to the HEA, 10 November 2011.

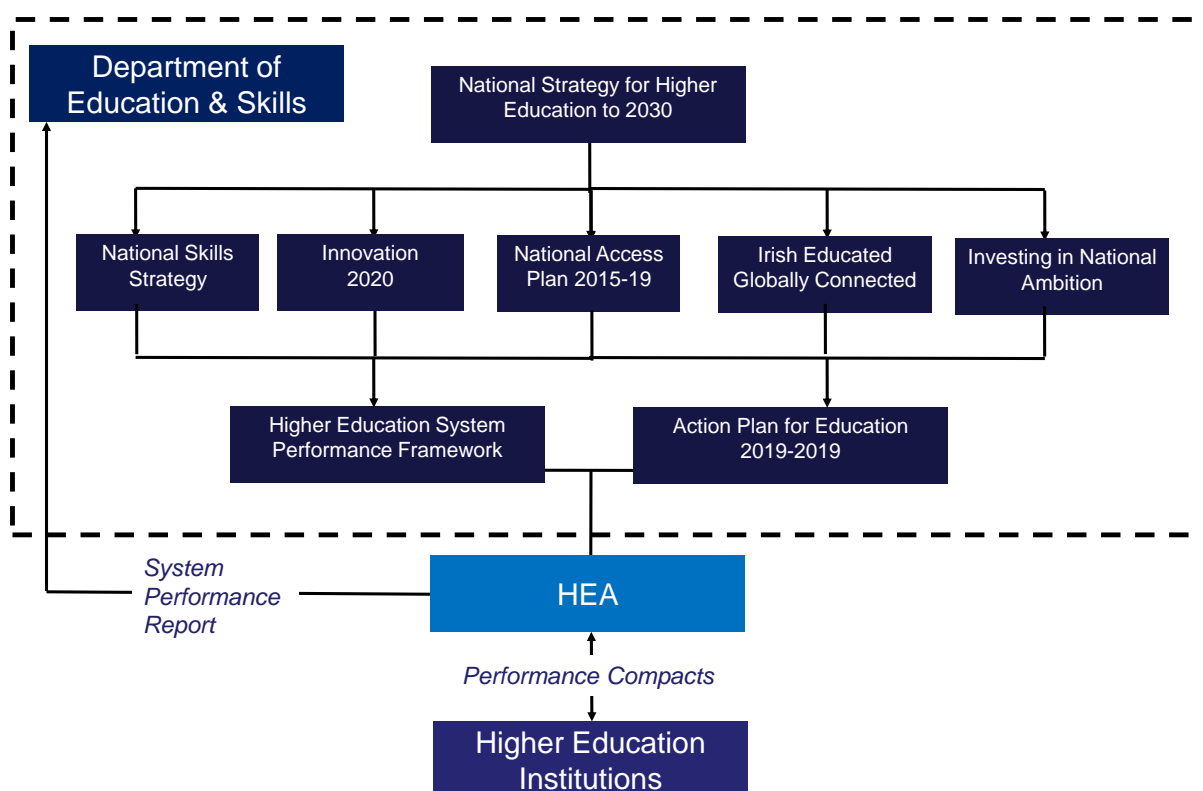
adequately maintain it. As a result, it is estimated 41% of the total space in the system requires major repair or replacement. Temporary buildings (including prefabs) and rented space also account for 6% of stock, while Irish students have 25% less physical space than is the norm internationally. This infrastructure deficit sits alongside an urgent need for new buildings and facilities to accommodate rapidly increasing student demand. While universities have been able to borrow to develop their campuses to some extent in response to this need, the IoTs are not currently permitted to borrow and rely solely on state and/or self-financing for any new developments.

2.2 Strategic Context

2.2.1 Overall Strategic Context

In recent years, the Government has set out a clear direction in terms of the objectives it expects to be realised by higher education. An overview of this strategic context is set out in Figure 2.4. The Minister for Education and Skills has set a high level ambition that Ireland should be the best education system in Europe by 2026, and higher education will have an important role to play through realisation of these strategies, plans and commitments.

Figure 2.4: Strategic Context Underpinning Higher Education



The *National Strategy for Higher Education to 2030* was the first step in this process, establishing a long-term agenda for change in the system. Despite being published in January 2011, it has retained its relevance and provided the impetus for many important developments. This was followed by a suite of national strategies focusing on different aspects of relevance to higher education, and more recently by an action plan for education, which brings together the priorities within these strategies to set out a range of commitments for delivery across a three year period. All of these strategic documents are further described below.

2.2.2 National Strategy for Higher Education

The **National Strategy for Higher Education to 2030 (Hunt Report)**, sets out the long-term vision for higher education in Ireland. It establishes three core roles for Higher Education: Teaching and Learning; Research; and Engagement with Wider Society with a range of high-level objectives:

- The sector should keep pace with **demand** from students and employers and should meet Ireland's evolving human capital needs through an appropriate mix of provision.
- It should improve **equity of access** and regional pathways from second level and from further education and training.
- It should promote **excellence in teaching and learning** to underpin a high-quality student learning experience and should produce high-quality qualifications.
- It should maintain an **open, excellent, collaborative public research system**, founded on a strong, broad base across all disciplines. It should also focus significantly on the government's identified priority areas.
- It should be **globally competitive** and internationally oriented.
- The (then) existing landscape of fragmented individual institutions should be restructured to form a **single coherent system** of diverse but complementary institutions that engage in inter-institutional collaboration, including a new type of institution – the Technological University – as a development option for IoTs that have outgrown their existing mission.
- The **funding and accountability system should be restructured to focus on performance and outcomes** that are agreed in a mission-based dialogue. Relevant considerations include: factoring in supply, demand, available funding and quality; balancing institutional autonomy and public accountability; and maximising efficient use of resources and income generation.

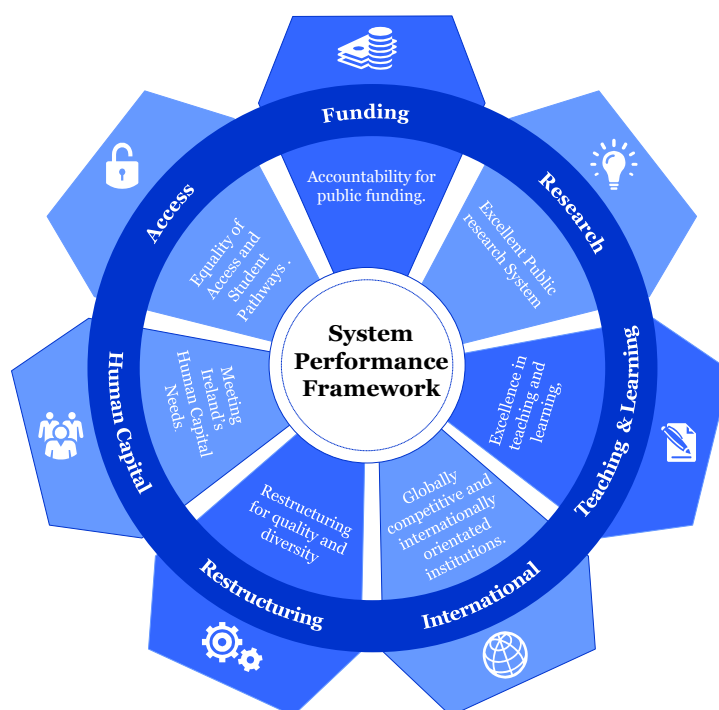
Realising these objectives in access and participation, skills, quality, engagement and research involves striking a balance between responding to demand and maintaining quality within any given level of available funding. Over the past 15 years, HEA funding systems have been successful in growing Ireland's participation in higher education to meet expanding demographic demand. However, as public funding has contracted during recent years, there are concerns that further growth without proportionate funding will put the quality of the student experience and of Irish graduates' qualifications at risk.

In response to the National Strategy, the document **Towards a System Performance Framework** followed in 2012 and set out to translate the full suite of relevant national strategies into system-level objectives and target outcomes. A strategic dialogue process between the HEA in partnership with the HEIs is the key implementation process for the System Performance Framework (2014-2016). The process involves agreeing individual and, where appropriate, collective targets to meet key system objectives via strategic compacts with each institution.



These objectives, defined by the Minister for Education and Skills in December 2016, are set out in Figure 2.5. An **annual system performance report** is produced by the HEA for the Minister reporting on higher education performance in delivering on these objectives. This draws on the annual strategic dialogue process and the submission of annual compact progress reports by HEIs.

Figure 2.5: Higher Education System Objectives in the System Performance Framework 2014-2016



2.2.3 Relevant National Strategies

Five national strategies have been published within the last two years that focus on key themes of relevance to higher education: skills, RDI, access, internationalisation and funding. The strategies contain objectives and actions which must be considered in the context of how HEIs are funded and supported moving forward.



The **National Skills Strategy** was published in January 2016. It sets out key objectives around: developing relevant skills; employer participation in development and use of skills; quality of teaching and learning and evaluation; lifelong learning; active inclusion to support participation; and supply of skills to the labour market. Implementing the National Skills Strategy requires a wide range of actions, including maintaining and increasing participation rates in higher education. Other targets of relevance to HE include: growth of apprenticeships; enhancement of STEM provision;

the development of employability statements for programmes of study (attesting the transversal skills that will be gained); the expansion of work placements to cover all programmes; expansion of entrepreneurship education; greater engagement of employers in programme development and programme content review; development of programmes in response to identified skills needs; continued implementation of the ICT Action Plan, implementation of a Digital Roadmap; expansion of part-time/flexible provision; increased retention rates; development of further education and HE pathways; and promotion of regional clusters.



The **National Plan for Equity of Access 2015-2019**, published in December 2015, sets a target for each of the identified under-represented groups in higher education, and for the proportion of entrants progressing from further education and training. Its goals are: to mainstream the delivery of equity of access in HEIs; assess the impact of current initiatives to support equity of access to higher education; gather accurate data and evidence on access and participation and further develop policy; build coherent pathways from further education and foster other entry routes; and develop

regional and community partnership strategies for increasing access to higher education. The plan acknowledges that the strategic dialogue process is the primary mechanism for review of access performance. Moreover, it implies a need for continuation of the additional cost-based weighting for access students contained in the existing funding allocation model, but also for some earmarked or ring-fenced funding for pilot initiatives to target communities with very low participation. It points towards an enhanced focus on access outcomes by examining problem areas of non-completion.



Innovation 2020: Excellence, Talent, Impact is Ireland's strategy for research and development, science and technology and was published in December 2015. The strategy notes the significant progress made in developing research capability across Ireland. Innovation 2020 sets a series of high-level objectives as follows: continuing to support excellent research across the full continuum and across all disciplines; becoming a global innovation leader; increasing public and private investment in R&D by increasing annual enrolments in research programmes by 22%, further developing research centres, and by introducing a research infrastructure programme; enhancing the impact of research and innovation for enterprise via a prioritised approach; supporting talent development in research and innovation; focusing research and innovation activity on social and economic development via a challenge-centric approach; and supporting innovation through the protection and transfer of knowledge. Implications of this strategy for the allocation of HEI funding include: the need to consider how growth in research enrolments can be given due priority alongside undergraduate enrolments and quality in teaching and learning in core grant funding; how research excellence and impact can be supported in the allocation of research funding; how research across all disciplines can be supported; how knowledge transfer can be fostered; and how the coherent organisation of research can best be promoted by the funding model.



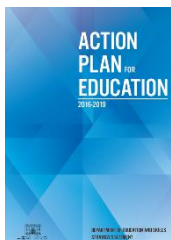
Irish Educated, Globally Connected is the new international education strategy for Ireland and was published in October 2016. This strategy defines internationalisation of education as preparing students, academics and staff to be active and engaged participants in an interconnected global world and attracting leading international student talent. Its strategic priorities are: internationally oriented, globally competitive HEIs; sustainable growth in the English Language Training sector; and succeeding abroad by identifying and building presence in international education markets. The strategy sets a target of a 33% increase in international students, to represent 15% of the overall full-time cohort by 2020. The funding model as it stands does not provide any funding in recognition of international student numbers (other than recognition on non-EU PhD students within the RGAM), nor does it consider income from this source in setting allocations.



The ***Investing in National Ambition*** report, setting out a strategy for funding higher education, was published in July 2016. This report considers the need to reinvest in higher education to restore it as a key enabler of the nation's future development, examining current funding pressures faced by institutions, by taxpayers and by students. It concludes that a significant increase in investment is needed to create the kind of engaged, small-group, high-trust and high-expectation teaching and learning that will be necessary for the next phase of Ireland's development, observing that neither the status quo nor incremental increase in state funding would be sufficient. An additional requirement of €600m per annum by 2021 is flagged. It proposes options regarding the proportion of funding that in future should be met by the state, by students and by employers, if future funding were to be increased and maintained at sustainable levels to meet demand. Furthermore, it suggested various means of allowing for some form of deferring student fees based

on income-contingent repayment schemes. However in line with increased funding, the strategy set out demands the enhancement of resource optimisation and review of the HEA funding allocation approach to ensure that it is structured to support overall priorities and objectives.

2.2.4 Action Plan for Education



Taking account of overall higher education strategy and the thematic strategies now in place, the Minister for Education and Skills has produced the **Action Plan for Education 2016-2019** which identifies commitments in relation to higher education (alongside others for school and further education), which must be delivered within the three-year timeframe. With the ambition now set to become the best education system in Europe, this plan is considered to be a key first step in its realisation.

Reforming the funding model for higher education is a key priority within the plan, while the other actions identified must be taken into account in the design of the future funding model, and how it relates to the wider system performance framework. These actions include:

- Increasing the percentage of people from target socio-economic groups in HE.
- Increasing by 25% the number of HE students undertaking a work placement.
- 13,000 places under the new apprenticeships programme.
- A new frontier research investment programme led by the Irish Research Council.
- Building in entrepreneurship programmes and modules across all HE provision.
- New grading system, common points scheme for HE access and reduction in the number of undergraduate entry routes as part of a cohesive approach to transitions.
- Addressing non-completion in HE.
- Implementation of a professional development framework for HE staff.
- Expansion of flexible provision by 25%.
- Requirement for employability statements to be provided against each HE course.
- Shared service programmes across HE, with the first focusing on payroll.

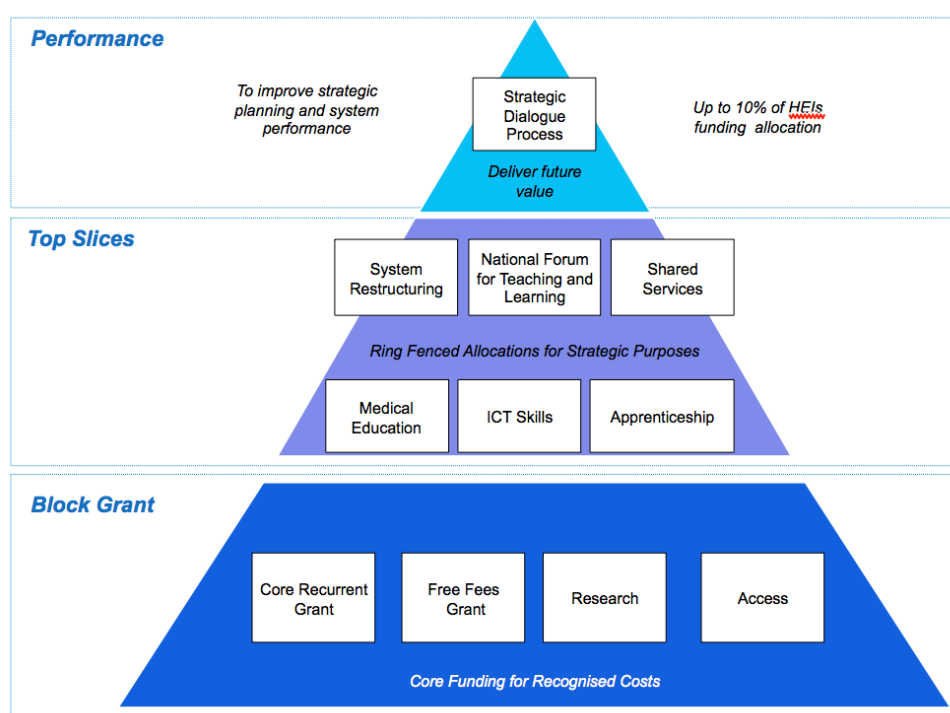
The clear direction which these strategies and plans have put in place have been of great assistance in considering the evolution of the funding approach. This review, and the reformed funding model which is proposed, may also afford an opportunity to revisit some of the targets and set new and ambitious goals across key areas of development like participation, STEM graduates, research, access, lifelong learning and student retention.

3. The Existing Approach to Funding Higher Education Institutions

3.1 Overview of the Funding Allocation Model

The current funding allocation approach was put in place for the universities from 2006, and on a phased basis for the IoTs from 2009. There are three separate, but related, elements to the model, which is summarised in Figure 3.1. The most significant element is a **block grant** allocated in recognition of core cost drivers for all institutions. Institutions themselves then control how they apply and use the resources provided, with outputs agreed and monitored as part of a system performance framework. A second element is **directed funding** which is provided and ring-fenced for specified purposes, typically for limited periods. A third, newer element is **performance funding**, at present operating via a potential ‘hold-back’ of funding from the block grant, but which could provide for institutional reward as well as penalisation in future. This element of funding is intended to recognise the quality of an institution’s overall performance in meeting targets for improvement, agreed in the context of the Minister’s objectives for the system as whole, allocated in a way that does not have financially de-stabilising consequences.

Figure 3.1: Indicative Overview of the Components of the HEA Recurrent Funding Model



3.2 The Block Grant

This is funding provided as a single grant allocation to HEIs with the internal budgeting determined by the institutions themselves, subject to review by HEA. The block grant allocation comprises two components: a core recurrent grant and a free fees allocation.

The **core recurrent grant** is allocated through a funding formula. The formula is significantly driven by audited prior-year retained student numbers (as at March of each academic year), weighted for the relative costs of providing education in different disciplines (as set out in Table 3.1 below), with additional allocations in recognition of research and access. All changes in student numbers from one

year to the next are considered in determining the annual grant allocation. However, stability in funding is provided by limiting or moderating the pace at which resultant changes in funding are implemented to plus or minus 2% of the average sectoral change in any one year. The term RGAM (Recurrent Grant Allocation Model) is used to refer to this specific ‘core grant’ element of the allocation only.

The **free fees grant**, which is a legacy funding arrangement provided ‘in lieu of tuition fees’ since the abolition of student-paid fees in 1995/96. It is based on certified student numbers (EU, first-time enrolments only) in each undergraduate programme, multiplied by the historically determined fee for the programme. Before the financial downturn, a process was operated whereby the HEIs, the HEA and the Department of Education and Skills agreed the annual percentage by which these fees could be up-rated. This up-rate was based on allowed levels of prior year pay and non-pay inflation arising from government negotiated pay deals and took into account the pay/non-pay split in HEI accounts. When tuition fees were abolished in 1995/96, there was a nominal additional fee of £150 paid by the student for registration and examinations to the examining and awarding bodies such as NUI and HETAC. It was this additional fee that, through successive increases, became the €3,000 student contribution of today. This contribution is subtracted from the fee due to the institution as part of the free fees grant allocation from the HEA. Fees typically range from €6,000 to €8,000 (effectively €3,000 to €5,000 after the student contribution is taken into account) for the Universities and from €3,000 to €4,000 for the IoTs (effectively up to €1,000 after contribution). The breakdown of the current fee levels across all institutions is also set out in Table 3.1.

Table 3.1: Summary of Fee Levels and RGAM Weightings for Different Types of Provision

	Average Composite Fee: Universities & IoTs (Full-Time EU students, Level 8*)			
Subject Price Group Weighting (60-credit courses)				
Veterinary / Dentistry (WEIGHTING of 4)		Average Uni Fee		Average IoT Fee
Veterinary Medicine		€9,997		N/a
Dental Science		€9,531		N/a
Clinical Medicine (WEIGHTING of 2.3)		Average Uni Fee		Average IoT Fee
Medicine		€9,723		N/a
Laboratory (WEIGHTING of 1.7)	Multiply Weighting by 1.5 for Taught Masters Multiply Weighting by 3 for Research	Average Uni Fee	Multiply Weighting by 1.2 for Taught Masters Multiply Weighting by 1.8 for Research	Average IoT Fee
Engineering		€7,339		€4,450
Science & Health		€7,384		€3,819
Fieldwork (WEIGHTING of 1.3)		Average Uni Fee		Average IoT Fee
Computer Science		€7,279		€3,819
Education		€5,674		€3,819
Architecture		€7,567		€4,450
Non Lab (WEIGHTING of 1)		Average Uni Fee		Average IoT Fee
Humanities & Social Sciences		€6,017		€3,819
Social Studies		€6,141		€3,819
Business Studies		€5,884		€3,819

* Please note that the fee for Level 6 and 7 provision in the IoTs is €3,250

Overall available funding is split on a fixed 60/40 proportion between two funding pots: one for universities and colleges and one for institutes of technology. The 'free fees grant' requirement for each of these sub-sectors is taken as the first call from each pot and the remaining grant funding for each sector is allocated through the subject-price formula funding model.

3.3 Block Grant Support for Research and Access

3.3.1 Block Grant Support for Research

Support for **research** is provided as part of the block grant. This is in recognition of the need to provide a 'foundation investment' to embed research excellence across the system. It is used to put central research support infrastructure in place, to fund academic posts for Principal Investigators and facilitate engagement by academic staff in research activities, including the development and supervision of postgraduate researchers. In order to develop research capability, universities need this foundation investment to then attract competitive funding for projects and activities which will ultimately deliver impact. While this funding enables institutions to win competitive research grants, it is not intended to service the research funding won from competitive sources. Institutions themselves have the final say on the distribution of their budgets between teaching and research, in accordance with their mission and objectives.

The block grant recognises the research mission of institutions in two ways. Firstly, by applying a multiplier to funding per student for all those students engaged in postgraduate research activity (3 times an undergraduate student in the universities and 2 times an undergraduate in the IoTs). About 20% of the universities weighted student numbers are currently research student numbers, against 3% in the IoTs. It is considered that the number of postgraduate research students reflects the broad scale of research activities within an institution across all disciplines and hence the need for wider investment in research support infrastructure and supervisory resources.

There is also, within the universities' RGAM allocation only, a research top-slice of 5%, which is then distributed on the basis of research metrics, with 75% of each university's award linked to research degree completions over the last three years and 25% to competitively earned research income per academic staff member. The impact of this top-slice has declined significantly, from a value of €24.5m in 2007 to just €9m in 2016, as state grants were replaced by student contribution and the amount available for RGAM allocations to HEIs diminished.

3.3.2 Block Grant Support for Access

Core funding support for improving access to higher education involves an additional premium of 0.33 being added to the discipline-based weighting for all eligible access students. This takes account of the additional costs of recruiting and retaining students from under-represented backgrounds. Thus a science student from an access target group attracts a weighting of 1.7 for discipline plus 0.33 for access, giving a total weighting of 2.03. For those from targeted socio-economic groups and mature students, this is applied for the first two years of course duration to reflect the higher support needs during this period. For people with disabilities a further multiplier of 2 is applied for the entire length of the course to reflect the higher support resources required.

3.4 Directed Top-Slice Allocations

Ring-fenced allocations for specific strategic or important purposes are top-sliced from the overall grant from time to time by either the Department of Education and Skills or the HEA. This funding is generally used to steer rapidly required systemic change, tackle issues better addressed on a collective or sector manner, or handle urgent ad-hoc requirements. It can also sometimes be allocated through competitive processes based on submission and panel evaluation.

At present, such funding is provided to support some institutional restructuring arising from the national strategy (e.g. the development of Technological Universities and other institutional merger initiatives). It is also deployed to facilitate discipline restructuring arising from thematic reviews of provision (e.g. medicine, nursing, initial teacher education) and deliver new or expanded programmes to meet identified skills gaps. Funding for shared strategic or service initiatives is also prioritised in this way (e.g. HEAnet for ICT infrastructure, IReL for e journals, the Irish Survey of Student Engagement, Athena SWAN to enhance gender equality and the National Forum for Teaching and Learning to support system innovation and change). Other existing top-slices include funding for pension obligations, and protected funding to reflect additional cost components related to important but vulnerable subject areas (e.g. dentistry, veterinary science, music).

Aside from shared sectoral initiatives, funding should, as a general rule, be top-sliced only for a finite period before being mainstreamed into the main funding model or discontinued. In the past, only funding provided additionally by the Department of Education and Skills was top-sliced for running competitive programmes or other strategic initiatives. However, in recent years, there has been some top-slicing from existing core grants. This has been contentious because of its effect on institution budgets for teaching and learning. To address this, the HEA has established a formal annual consultation process with the representative bodies of the universities (Irish Universities Association) and the IoTs (Technological Higher Education Association) where proposed top-slices are set out and discussed and views formally recorded to inform the final decision by the HEA Finance Committee. This does not however currently apply to top-slices directed by the Department of Education and Skills.

3.5 Performance Based Funding Component

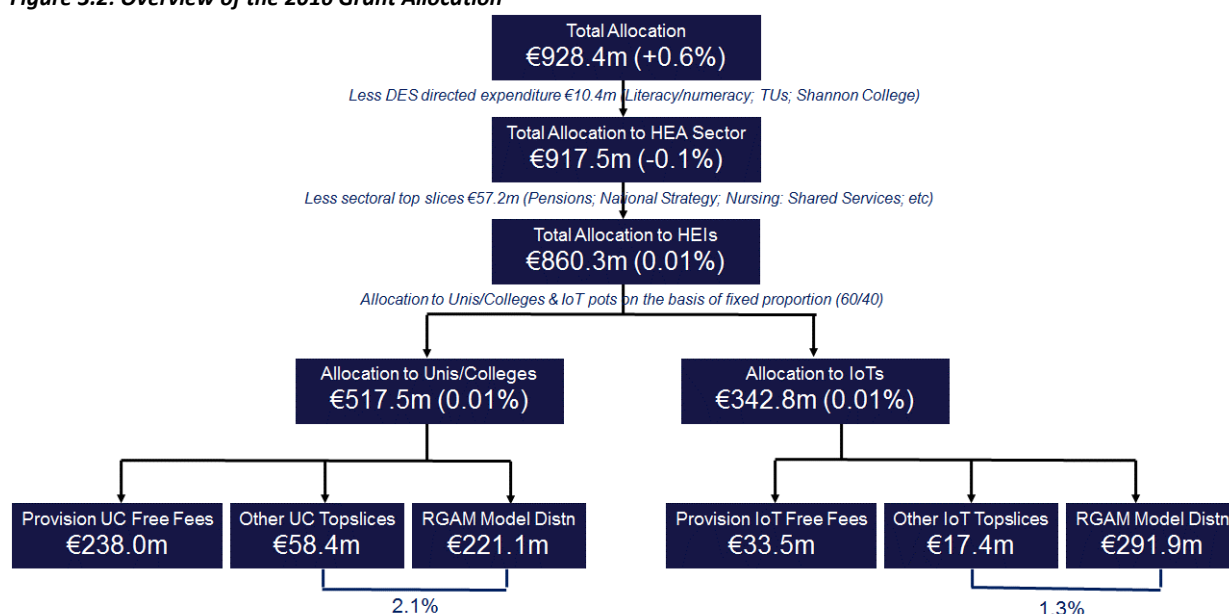
The performance based funding component complements the block grant, linked to a process whereby the outputs and outcomes for the system and individual institutions are agreed through a process of dialogue. This allows each institution to develop an agreed contribution in line with its own mission, strengths, and profile: it is deliberately not a one-size-fits-all set of targets. Since 2013, there is provision for withholding up to 10% of the allocated institution block grant for a particular year, on the basis of verified performance against agreed targets in the preceding year.

The proposed contribution sought from each institution each year is drawn from three-year mission-based compacts. These compacts identify proposed targets across defined Ministerial system objectives and these targets are subject to challenge by an external expert panel and formally agreed in a dialogue process with the HEA. The HEA co-ordinates the approach at a system level to ensure pursuit and ultimate achievement of the Minister's system level objectives. Each year an external expert panel reviews HEI performance against the compacts based on annual progress reports. This process has yet to apply a penalty to any institution deemed to be performing inadequately as a result of this panel review. In 2016 2% of funding was withheld from 3 institutions pending delivery of an acceptable programme of remedial actions, although this was subsequently released following satisfactory responses.

3.6 The Grant Allocation Process

When the HEA receives notification of the overall recurrent grant allocation, the Department of Education and Skills typically directs that certain portions of spend be used for a designated purpose (e.g. to support Technological Universities or Literacy and Numeracy Strategy). The HEA then makes a further series of adjustments in line with the top-slicing approach outlined in section 3.4. The remaining grant is then split into two separate ‘pots’: one for universities and specialist colleges, and one for Institutes of Technology. An overview of the grant allocation process is set out in Figure 3.2.

Figure 3.2: Overview of the 2016 Grant Allocation



Note: Percentages in brackets represent the % change from the 2015 grant

The HEA then sets aside top-slices for strategic purposes specific to each cohort (e.g. pensions for Universities/colleges; Educampus to provide shared IT services for IoTs) and then deducts the provision needed to meet the undergraduate ‘free fees’ obligations. The remaining grant for teaching and core research is then allocated to individual institutions via the RGAM component.

3.7 International Higher Education Funding Approaches

In considering how the Irish funding model should change, it was important to compare and contrast it with international higher education funding approaches. We identified a range of relevant comparator nations and analysed the different characteristics of their funding systems (set out in detail in Working Paper 4). As shown in Table 3.2, the existing approach in Ireland shares many similar components with these other international systems including:

- The principle of the block grant and institutional autonomy;
- Emphasis on student-number, discipline-weighted and formula-based core funding systems; and
- A growing focus on a performance-based funding mechanism are common across most of the models considered here.

Table 3.2: Overview of Core Components of International Funding Systems

Country	Block Grant and HEI autonomy	Primarily Student Nos Driven	Weighted by Discipline	Performance-Funding Agreement ⁸	Research & Access Funding within Core	Allocation model includes student fees
Ireland	Yes	Yes	Yes	Yes	Yes	No
Australia	Yes	Yes	Yes	Yes	Research only	Yes
Norway	Yes	Not directly	Not directly	Yes	No, research within performance component	N/a
Netherlands	Yes	Yes, but by graduates	Yes	Yes	Yes	Yes
Wales	Yes	Yes	Yes	Partial	Yes	No
England	Yes	Yes	Yes	Partial	Yes	Yes
Scotland	Yes	Yes	Yes	Yes	Yes	N/a
Denmark	Yes	Yes, but credit based	Yes	No	Yes, within weightings	N/a

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 their 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, setting of institutional budgets has evolved in a similar way to other systems in recent decades. Over this period, there has been a move away from ‘negotiation’, where budgets were agreed based on HEI submissions and dialogue. This approach left the process open to inconsistencies across the higher education system arising from legacy arrangements and special cases made by individual institutions. Increasingly, a formula-based approach has become the norm internationally, 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

⁸ Wales has Tuition Fee Plans and England has Access Agreements, which are ‘partial’ Performance Funding Agreements albeit under different names.

also consider 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).

Increasingly, the formula-based approach is being supplemented by formal performance contracts and/or performance funding mechanisms. Agreements are made between the government and individual higher education institutions, setting out targets that institutions seek to reach within a specific 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 to remain consistent with the overall approach. Input-related factors such as student numbers and historical allocations are still very important in international funding systems. 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, but these only complement the core student number based system to influence small parts of the funding block.

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 considered 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 HEA). 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 and agencies 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.

4. Understanding the Costs of Higher Education

4.1 Current Systems of Measuring Provision Costs across the HE Sector

The cornerstone of an effective funding allocation model is robust, timely and consistent information on the costs of delivering higher education. The Irish funding system has always placed a strong emphasis on understanding the costs of provision in individual institutions. Cost data is gathered from all publicly funded HEIs each year, supplemented by an annual budgeting process that ensures institutional income and expenditure plans are fully understood and challenged where appropriate, and by a student records system which validates undergraduate and postgraduate numbers across the sector. In 2016, the annual budgeting process for Institutes of Technology was enhanced, partly as a response to serious sustainability concerns, and a much wider management information template was required to be completed. This new framework focused on gathering data on historic costs and income over the past 5 years and projecting financial forecasts for the next 5 years based on agreed common assumptions. In 2017, the HEA has also introduced a new template for budget submissions from universities and specialist colleges to ensure greater consistency in approach, and a move to a multi-annual reporting template is planned for 2018.

Despite a strong focus on understanding costs of provision and these recent enhancements to institutional information gathering, cost comparison between universities and IoTs is not a simple task. Legacy issues include pension costs which are paid directly by universities (and partly funded via grant allocations) but which are outside the funding system for IoTs.⁹ There are also two different methodologies for calculating unit cost data supplied to the HEA:

- Universities use a Full Economic Costing (FEC) system that aims to capture the full costs of teaching, research and other activities to facilitate the sustainable management of institutions. This involves adjustments to reflect the cost of maintaining infrastructure and the cost of finance. It mirrors the approach used in the UK Transparent Approach to Costing (TRAC) system which is required by HM Treasury, HEFCE and Research Funding Councils.
- IoTs use a unit cost system driven by levels of funding which calculates an expenditure per student across academic programmes by removing non-recurrent costs. It does not provide for any contribution to pensions, nor does it account for any depreciation of an institute's assets (or cost of maintaining same)

These differing approaches make the assessment of an overall, cross-sectoral cost of provision complex and hampers system-wide analysis. It would seem clear, therefore, that there needs to be a move to a common higher education costing system and a clear, shared understanding of the cost of provision.

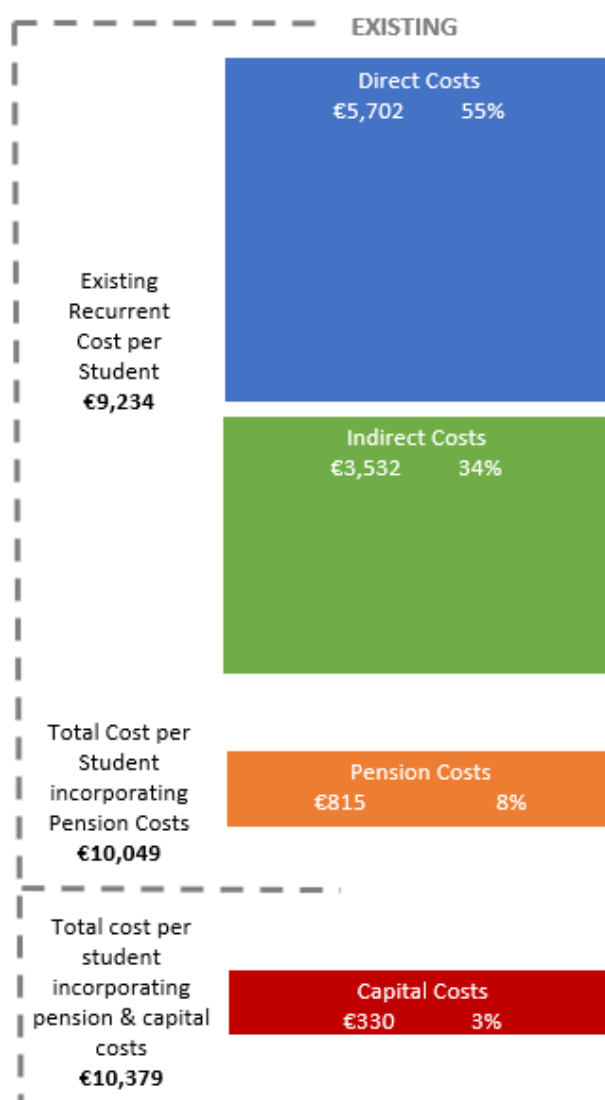
4.2 Assessment of Higher Education Provision Costs

Despite the difference in the costing approach, it is important to use the data that is available to develop a broad understanding of the cost of providing a higher education place. Universities, IoTs and specialist colleges all provide funding statements to the HEA on a harmonised basis and this allows some reconciliation between the costing methodologies. Using these funding statements, the diagram

⁹ IoT pensions are paid directly to the recipient from a public-sector pension fund and kept off balance sheet and outside the grant allocation process.

in Figure 4.1 sets out an assessment of the cost per student across the higher education system, broken down by different cost components, which are further explained below.

Figure 4.1: Average Cost Components across Higher Education Institutions



4.2.1 Recurrent Costs

Recurrent costs can be split into two categories: direct costs and indirect costs. For the IoTs, direct costs are clearly identified within pay and non-pay categories, by using unit cost data in tandem with the funding statements. For the universities, it is assumed that direct costs relate to the academic department costs, which refer to both the pay and non-pay costs associated with delivering academic programmes. The direct costs of research grants and projects in the universities have been eliminated from the analysis as these should be supported by competitive grant sources, despite an issue over inadequate funding of indirect overheads in this regard which is further explored in Section 6.2 and which needs to be addressed as an important factor in the sustainability of future higher education funding.

The **indirect costs of universities** are assumed to include costs of other academic services, such as the libraries, IT systems and innovation support which support academic activity. It is also assumed that

they include other education expenditure such as examination expenses and scholarships, prizes and fellowships and other overheads (i.e. central administration costs and the costs of maintaining premises, facilities and amenities).

Within **IoT indirect costs**, allocated overheads are central costs that are allocated based on usage mechanisms (e.g. premises on the basis of space utilised). Apportioned overheads are other central costs that are apportioned on the basis of whole time equivalent (WTE) student numbers (e.g. library costs).

By using these assumptions, the existing recurrent cost per student can be estimated at **€9,234**, consisting of €5,702 of direct costs (61.8%) and €3,532 of indirect costs (38.2%). Although comparisons are problematic for the reasons stated previously, breaking down this analysis further suggests a greater proportion of IoT costs (66.5% against 58.5% in the universities) are focused on the direct delivery of provision via academic departments. This reinforces recent analysis¹⁰ that there is relatively less emphasis on central management and administrative services within IoTs and that this capability must be built up to improve planning and performance.

4.2.2 Capital Costs

Maintaining and renewing the capital stock of a higher education institution must be a critical consideration in servicing its annual cost base. Exchequer capital funding has been very limited, with an average of €69.8m per annum over the last 5 years. This produces an annual capital funding cost per student of **€330**. Due to the universities' capacity to borrow, and the ability of some institutions to utilise reserves or source philanthropic funding, this Exchequer contribution has been supplemented to produce annual capital investment of €290m, but most of this funding is channelled towards new bespoke capital development projects and has benefited considerable from the injection of European Investment Bank lending to the universities. This is not available to IoTs, and there is an urgent need to resolve issues which restrict them from borrowing, as this will severely undermine the system's ability to accommodate future student demand.

4.2.3 Pension Costs

Pension costs in Universities are highly complex. A component of the core grant to universities is top sliced to support pension payments, based on audited pension costs (this stood at €36mn in 2015). There is also a separate Exchequer contribution to the Pension Control Account (estimated at €18m, given the 2015 allocation). Universities are also required to supplement these contributions from other income, across a variety of different schemes. By taking all pension contributions into account, it is estimated that total annual pension costs for the university sector amount to €99m. Pension costs in IoTs are outside of HEA funding arrangements, managed and financed directly by the Paymaster General, which adds further complexity to comparing IoT and university costs. Nonetheless, IoT pension costs remain an Exchequer liability and are estimated at around €50m per annum. The overall higher education pension cost per student is therefore estimated at €149m, which equates to **€815** per student.

¹⁰ The recent *Financial Review of the Institutes of Technology* (October 2016) conducted by the HEA indicated a need to build management and strategic capacity

4.3 Channelling Future Investment Effectively

As we noted in Section 2.2.3, the Cassells Report addressed the issue of the quantum of additional funding required to restore quality and respond to demographic growth. It identified the main beneficiaries of higher education as government, students/graduates and employers and it set out options for the proportions of total system funding that might in future be derived from each beneficiary. It stated that having decided on the proportions of overall system funding that should be met by government, students/graduates or employers, the focus then needed to be on how these funds should be provided and allocated and how each set of stakeholders could contribute their share. The options included a new employer contribution sourced from an increased National Training Fund levy, and different options for student contributions including some supported by income contingent loans. It emphasised that under all scenarios increased state investment would be required.

It is not the role of this review to consider the level of additional investment required in Irish higher education or to make assumptions as to the source of additional funding. However it is important that our analysis and findings take account of the Cassells recommendations on the need for increased investment and the potential options for sourcing this. This allows us to identify a reformed funding model that can distribute current funds in an effective, equitable and transparent manner and that also has the capacity to efficiently allocate additional funding from new sources as they become available. Such a funding model will need to be capable of incentivising and promoting innovation and high performance and penalising inefficiency. It must ensure that increased investment from whatever source is complemented by ongoing reforms, resulting in a more flexible and responsive higher education system.

In section 4.2, we set out the estimated split between direct academic costs, indirect costs, pension costs and capital costs of higher education provision. The Cassells report acknowledged the significant efficiencies that have been generated across higher education during a period of constrained funding, and the ability of the system to continue to accommodate increased student demand at a time of decreased resources provides further such evidence. There is concern about the continuing ability of HEIs to maintain quality, particularly with an academic staff-student ratio of 1:19.8, well outside the OECD norm which has varied between 1:14 and 1:15.8 between 2008 and 2014. This suggests that if additional investment becomes available it should be channelled into the area of **direct** expenditure where it is most urgently required to maintain the quality and international competitiveness of academic programmes. In effect, such a focus ‘banks’ the efficiencies generated across the other cost categories in the years of austerity. The other area of immediate priority is capital investment, given the need to maintain adequate infrastructure to service the burgeoning student base and address the substantial infrastructure ‘deficit’ identified across the HE sector.

In HEIs we have seen a focus on raising non-Exchequer income to effectively cross-subsidise undergraduate provision to EU students, from increasing the international student base, generating other fee income and targeting philanthropic investment and borrowing to meet the costs of capital. Higher education has long been characterised by cross-subsidisation, both across disciplines and across different levels and types of provision, but care must be taken to ensure that the dependency on such cross-subsidisation does not become so great as to create unintended risks and consequences (for example, in pursuing unsustainable numbers of international students or setting uncompetitive or unfair postgraduate fee levels).

In any new funding allocation model, a closer relationship needs to exist between the total funding provided, the average cost of provision, and the three major funding components of student contribution, free fees allocation and RGAM grant. This will allow quality provision to be maintained,

and remove unintended incentives and disincentives that can arise due to mismatches between the structure of costing and funding.

We also recognise that there are important differences in the capacity of individual institutions to generate non-Exchequer income, whether that be via international student, lifelong learning and postgraduate fees, philanthropic donations, industry collaboration, commercial activities or other ancillary revenue. However it is our strong view that the model should not, in any way, disincentivise the generation of non-Exchequer revenue as this will be an essential component in the future sustainability of all institutions. Nonetheless there is a need to build capability in many institutions to diversify their revenue base and consideration should be given to a strategic investment in this area.

Channelling future investment effectively will also require assurance of good governance and accountability across institutions. We note the recent governance concerns which have been raised about higher education, and the establishment of a robust governance framework for the system by the HEA has been a notable development which makes clear institutional responsibilities and ensures timely monitoring of compliance. However the higher education system is of greatest effectiveness when institutions are given full autonomy to invest strategically, adapt structures and provision to meet demand and deploy human resources effectively. There are major current constraints in this regard, and it is unlikely that the necessary further autonomy will be granted without assurance that sanctions can be applied to any institution that misuses this autonomy. A penalty system for clear breaches of governance compliance could offer a more tangible system of accountability which will allow more institutional flexibility and restrictions, particularly around human resources, to be lifted.

4.4 Appropriateness and Application of Cost Weightings

4.4.1 Weightings and Reflection of Relative Provision Costs

Clearly, the foregoing analysis treats all undergraduate students equally. However, both costs and funding vary in accordance with the subject area in which a student's course is centred. We set out these subject price groups in Section 3.2 and it is important to examine whether such weightings continue to reflect the relative costs of provision.

FEC and Unit Cost data allow for the incorporation of weightings into cost calculation and facilitate comparison between different types of provision. Table 4.1 sets out current estimated costs for a Level 8 undergraduate student in non-lab (1) and lab-based (1.7) categories, compared with the funding which is provided. It demonstrates that the effective funding premium for lab based provision when free fee allocations are taken into account is only 1.33 rather than the 1.7 which is intended to reflect the cost premium in such activity. This reflects a dilution of the impact of the weightings as a result of reduction of state funding and its partial replacement by a fixed student contribution. It is this type of unintended consequence which prompted a 2016 HEA decision to address the disincentive for STEM provision by applying an adjustment equivalent to the diluted impact from the increase in student contribution for the IoTs in recent years.

Table 4.1: Comparing the Costs and Funding of Laboratory and Non-Laboratory Provision¹¹

	Universities	IoTs
Non-laboratory Provision		
RGAM Weighting	1	1
Total Funding (Contribution/Free Fees/RGAM)	€7,018	€6,334
Total Cost Per Student (Based on FEC/Unit Costing)	€7,315	€6,527
Laboratory Provision		
RGAM Weighting	1.7	1.7
Total Funding (Contribution/Free Fees/RGAM)	€9,319	€8,410
Total Cost Per Student (Based on FEC/Unit Costing)	€11,082	€10,003
Effective Current Lab Funding Weighting	1.33	1.33
Weighting to Reflect Actual Lab Cost Premium	1.51	1.63

Interestingly, when looking at the actual estimated additional cost of lab-based provision, this produces a multiplier of 1.51 for universities and 1.64 for IoTs. When looking at trends in this actual lab cost ‘premium’ over recent years, it has declined in tandem with the wider contraction of Exchequer funding. For universities, the actual weighting for lab-based provision fell year-on-year, from 1.8 in 2008/09 to the 1.51 level in 2013/14. The fall for the IoTs was less pronounced, from 1.71 to 1.64. The analysis suggests that this type of provision has borne the brunt of cuts within institutions, perhaps by reducing lab exposure, technician time, or replacement of equipment to minimise costs.

There was also some concern expressed about the appropriateness of overall postgraduate taught weightings, with a 1.5 premium applied in universities over undergraduate provision and a 1.2 premium applied in IoTs. While unit cost data largely reinforces this adjustment in the latter cohort, Full Economic Cost data suggests that a 1.5 multiplier is too high in comparison to the relative additional cost of delivery, which sits at approximately 1.3 in the 2014/15 FEC returns.

The impact of the funding situation in recent years on relative costs of provision, coupled with the need for more consistent and comparable cost data across the system, mean that it would be premature for the panel to draw any definitive conclusions in relation to the appropriateness of overall weightings. They remain broadly in line with international equivalents, and we have no reason to question their continuing validity in the absence of any robust evidence to the contrary.

Rather our main concern is the declining impact of these weightings as an unintended consequence of reduced funding. In this regard we are clear that the weightings should be applied across the entire state (i.e. RGAM and free fees components) and student contributions for all undergraduate provision. Postgraduate provision is more complex due to the payment of varying fees directly by students, but we also see a case for expanding postgraduate weightings across the funding base when an appropriate approach to addressing such issues can be found with the sector and other key stakeholders.

4.4.2 Specific Discipline Weighting Issues

During the review, we received many submissions and representations around the appropriateness of weightings, or the wider funding treatment, for specific discipline areas. Many of the issues raised require a full and forensic costing study to determine whether a revised approach should be

¹¹ Costs are not adjusted for pensions.

progressed. This review lacked the capacity to investigate each issue in such intricate detail, particularly due to our concerns about the suitability of the wider costing data that currently exists to provide a sufficiently robust framework to identify clear discrepancies. Nonetheless it is important that we acknowledge where discipline-specific issues have been identified, and we summarise these in Table 4.2.

Table 4.2 Specific Concerns Raised in Relation to Current Discipline Weightings

Discipline	Issue Raised by Stakeholder
Dentistry	Imbalance of funding between institutions due to direct funding arrangement of one institution outside funding model
Veterinary Science	Insufficient weighting of veterinary science demonstrated by additional annual allocation to recognise significant funding gap
Health and Social Care Professions	Physiotherapy, radiography, audiology, optometry, dietetics, occupational therapy and social care require practical work-based training, the costs of which are not sufficiently recognised within the funding model
Art and Design	Insufficient weighting to recognise actual costs and inconsistency in some subject categorisation between institutions within the university/college and IoT funding pots.
Initial Teacher Education	Subject of academic reform process which means legacy weightings are no longer appropriate
Pharmacy	New 5 year integrated masters programme introduced with increased practice-based elements throughout the degree programme
Computer Science	Needs higher weighting to recognise lab-based nature of provision and critical need to grow skills in this area
Optometry	Costs significantly higher than funding allocated and provision incomparable with UK approach so using equivalent to HEFCE weighting inappropriate
Music	Significant costs incurred beyond those recognised within weightings, particularly in relation to engagement with second level students by particular IoTs
Engineering	Appropriateness of existing weightings for subjects that may have significant costs

From this summary, some broad categories emerge which assist in identifying how discipline-specific issues should be addressed:

- Subjects currently receiving additional funding (e.g. dentistry, vet science) in recognition of a significant gap between funding and costs
- Subjects apparently categorised differently in universities and IoTs
- Subjects that have been subject to an academic reform process (e.g. pharmacy, engineering, initial teacher education)
- Other subjects (e.g. optometry, computer science) where a case is being made that weightings clearly diverge from actual relative costs

The appropriate approach for each category is further considered later in the report.

5. Core Principles Underpinning the Future Funding Approach

In the preceding chapters we have set out analysis of the current higher education system, the policy and strategy which steers its development, the existing funding model and how this compares internationally, and the cost drivers of higher education. This provides an important foundation for considering how best to shape the future direction of the funding approach. A key early priority for the Expert Panel was to define a set of characteristics and guiding principles that could frame the development of a proposed new model. These are set out in the sections below.

5.1 Key Characteristics of the Future Funding Model

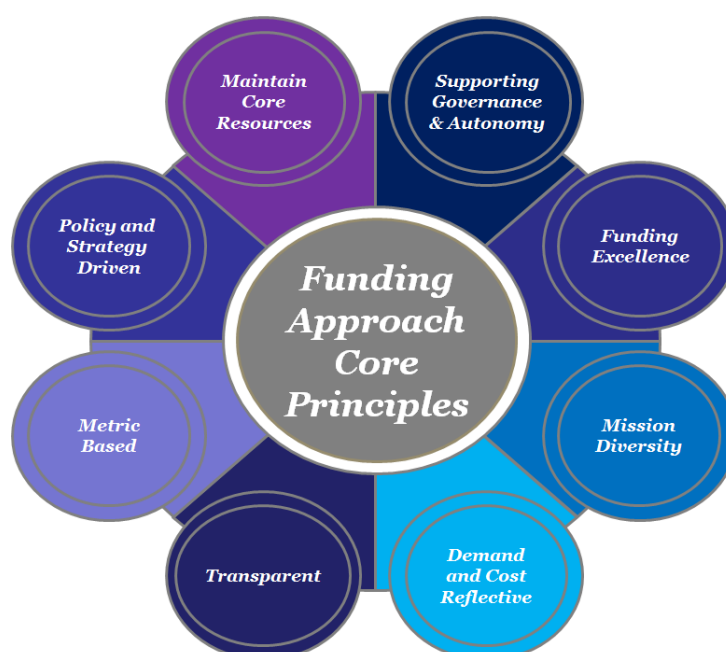
In undertaking the review, there has been broad consensus around the characteristics that a future funding model must demonstrate if it is to support an effective higher education system. The panel believes that for this to be achieved the funding approach must:

- Respect institutional autonomy;
- Recognise the role that higher education plays in transforming lives, driving economic development and promoting social cohesion.
- Support institutional sustainability;
- Reflect Government and higher-education objectives; and
- Maintain integrity as an independent and robust allocation system.

5.2 Core Principles Underpinning the Future Funding Approach

In addition, it has been agreed that there are a number of core principles that should underpin the future approach to funding HEIs. These were validated during the consultation process. The proposed principles are summarised in Figure 5.1 and described in further detail below:

Figure 5.1: Core Principles Underpinning the Future HEA Funding Approach



Maintaining core operations – The funding model should recognise the significant resources required to maintain operations and the inflexibility regarding how these can be deployed. It must remain

focused on maintaining the core teaching mission of the HEI and provide resources in a way that ensures that it can deliver on this mission. Every institution will require a core base of funding which reflects its relative scale and underpins its ongoing sustainability.

Policy and strategy driven – The overarching approach to funding should be able to recognise, influence and reward institutional behaviour in response to national policy priorities by using an appropriate balance of block grant, performance component and top-sliced competitive funding mechanisms. Aligned with this, the funding approach should require, reflect and reward institutional strategic planning which reflects its particular priorities, delivers on national objectives and sets a clear course of performance improvement over the medium and long-term.

Metric based – The metrics used to determine funding allocations in relation to a specific theme should be measurable, objective, robust and available in a timely manner. The metrics should reflect, as far as possible, all relevant aspects of performance, including outcome and impact indicators. They must also be consistent with the objectives, metrics and targets established within the system performance framework and the associated HEI performance compacts.

Transparent and understandable – All stakeholders should have complete clarity regarding the basis on which the levels of funding are allocated. The variables that are used to calculate these allocations should be measurable on a consistent basis across the system.

Demand and cost reflective – Funding should be able to adapt to changing patterns of student demand across the system and should be aligned with relevant ongoing institutional costs where there is a clear rationale for full or partial State subvention. It should reflect the discipline and structural mix of provision and the operational commitments to maintain a nationally and internationally competitive institution.

Differentiating missions – The goals for the higher education system are diverse and significant. For the system to have the desired impact at regional, national and international level, it is critical that the approach to funding supports and encourages differentiation of mission between individual institutions. This differentiation encompasses but is not limited to: blend of programme-level offering; balance across teaching, research and external engagement; student-cohort diversity and access performance; mix of undergraduate and postgraduate intake; regional/international focus; and variation in pedagogical methods.

Recognising excellence and supporting transformation – There is a need to avoid a system based solely on sustainability. The approach to funding should recognise and reward excellence at institutional level and facilitate innovative and transformative propositions to maintain or to build international competitiveness.

Supporting governance and autonomy – While respecting institutional autonomy and allowing flexibility in the deployment of resources by HEIs, the funding approach should also ensure that good governance by HEIs is recognised and rewarded. The level and timeliness of compliance with HEA and other mandatory requirements should be linked to an appropriate funding mechanism.

While these core principles have been used to frame our own work throughout the review, we also recognise that an agile and responsive higher education system will require a funding model that continually evolves to reflect a changing environment. The principles set out above remain valid in providing future direction to the essential process of ongoing review of the funding model by the HEA. We recommend that they remain a central reference point in considering options for future changes

to the model, and are clearly communicated as a core part of what the Irish higher education funding approach seeks to achieve.

6. Developing Options

Building on the analysis of the existing situation and the characteristics and guiding principles that the Panel agree must frame the future approach, a range of options were developed for consideration. The implications of these options were modelled and evaluated, and a preferred direction selected. In this chapter we discuss the development of our recommended options in relation to four core missions of Ireland's higher education institutions: teaching and learning; research and innovation; access to opportunity; and engagement.

6.1 Teaching and Learning

High quality, excellent and effective teaching and learning is pivotal to all successful higher education systems and we have placed considerable emphasis on how adequate and proportionate funding to support teaching and learning activity can be allocated via the future model. Funding adequacy is a core concern, as the Cassells report was clear about the need for additional investment and the inability of the system to cope with additional student numbers without additional investment. The setting of a minimum standard of resource should be central to an effective future funding approach to support the teaching and learning mission. This would ensure that existing system capacity to deliver a quality learning experience for each student is not any further diminished.

Chapter 4 addressed cost issues around different types of provision and disciplines. A consistent and comparable cost system will play a critical role in ensuring that teaching and learning activity is fairly supported. However we should also recognise the evolving needs of our society and economy from higher education, and reduce the focus of the funding system on full-time undergraduate provision. First of all, Ireland must prioritise lifelong learning if it is to address a current upskilling deficit in this area in comparison with other international labour forces. There is also a need for the funding approach to accommodate, and encourage further development of, new methods of learning delivery and the use of online platforms to expand access to institutional offerings. This will require an openness to consider, and ultimately fund, innovative or transformational institutional approaches to improving learning experiences, outcomes and access.

Higher education teaching and learning must equip individuals with the skills that will allow them to flourish and make a contribution to wider economy and society. It has a critical role in embedding the creative, entrepreneurial society that can respond flexibly to ever-changing business, technological and labour market needs. We note that many employers identify the more generic transferable skills as being a critical outcome from higher education to facilitate the employability of graduates, and we acknowledge the efforts of institutions in recent years to more formally define and develop such graduate attributes. In the rapidly evolving world of work, specific technical skills, whilst valuable, need to be balanced against the development of rounded adaptable graduates.

Nevertheless it is also important to recognise that there are urgent and specific skills development requirements to support Ireland's key areas of activity in driving economic development. From the work by the Expert Group on Future Skills Needs in recent years, a range of national skills needs have been identified including:



There has also been a strong focus on developing language competency as a priority, and we are seeing an evolving approach to apprenticeships to meet a range of current and emerging workforce skill needs across the economy. We have also seen the advent of new skills advisory infrastructure with Regional Skills Fora and the National Skills Council, which will provide critical input in identifying regional and national skills needs and steering the education system to respond to these needs.

Of course this is not an exhaustive list of all national skills needs, and even those identified above vary significantly in nature, scale and in terms of the challenge facing higher education. ICT skills have been a major focus of targeted system initiatives for many years, with a significant base of provision across institutions. Tourism and food related courses have been supported, but retention issues are apparent. The list does however indicate the types of target categories through which competitive funding such as Springboard is currently channelled, and to which specific courses delivered in HEIs can be linked to identify where such needs are being directly addressed in core funded provision.

Alongside these identified skills gaps in private sector industry, there is an onus on the higher education system to deliver the essential pipeline of new teachers, doctors, nurses, social workers and other professionals required by a well-functioning society. There must be a robust planning framework in place to direct appropriate funding to meet future demand for such public service requirements. In this regard most associated programmes are delivered with a fixed quota of students and a professional body providing oversight of requirements (e.g. Teaching Council, NMBI). The Panel was encouraged by our engagement with the Department of Health on the establishment of a new workforce planning system which will support a much more efficient and effective approach to funding the future pipeline of healthcare professionals. We must ensure that the future funding model works in tandem with this system to clearly channel appropriate investment.

There has been criticism that the existing funding model does not facilitate investment in, nor encourage sufficient responsiveness to, all of these private and public regional and national skills needs. To test this, we undertook a bottom-up analysis of how actual funding is distributed to support skills development in line with the target needs identified above, allied to direct investment in apprenticeship provision. Of course, this is not an exact science, as many people employed in financial services, for example, undertake generic business degrees which cannot be categorised as programmes focused on specific skills needs. We took a generally conservative approach to matching specific provision across HEIs which could be directly aligned to the particular skills gaps identified above. Even this approach, while undoubtedly not reflecting the extent of provision which supports skills development in such areas, does nonetheless illustrate the substantial investment being made in support of private and public sector skills requirements. As set out in Figure 6.1, we estimate that programmes where a direct match can be found with these key skills gaps account for some €173m of funding, while those related to public service related occupations account for some €230m.

Figure 6.1: Estimated Breakdown of Research, Teaching & Learning Funding



It is nonetheless critical that we find a more transparent manner to demonstrate how the model channels funding towards such skills development areas. We note the current debate around whether and how an employer investment mechanism could be introduced for higher education and it is clear that, if such a contribution is agreed, there will be expectations that such funding is clearly channelled towards meeting the needs of employers. We therefore believe that there is scope to identify two funding streams supporting “targeted future skills needs”, with one focused on meeting specific nationally identified skills gaps and the other on delivering public services. This approach should be combined with a strong focus on employability indicators within institutional performance compacts to ensure direct accountability for meeting employers’ needs on an ongoing basis. This should be done in tandem with further development of Springboard which has successfully provided competitive funding to target particular skills needs.

The final aspect of effective teaching and learning that must be further embedded within the funding approach is around retention and progression. A perceived weakness of the current funding model is that it does not reward retention, but it does take account of the ability of institutions to retain students. Funding is based on a student audit at March each year, ensuring HEIs are funded for only those students remaining for the majority of the academic year and therefore likely to complete it, while removing any incentive to ‘pass’ borderline students at year end. On balance we do not favour a move to a credits based system, but recognise the need for substantial focus on meeting retention targets within HEI performance compacts. This is key to ensuring good outcomes for students and value-for-money from Exchequer investment in higher education. To build on the setting of targets within compacts, there is also a need to consider how funding could be more effectively targeted to support progression of students to completion of degrees. Elsewhere in this report we flag the need to introduce a rewards-based approach to performance funding and this could be an initial area of focus within such an approach.

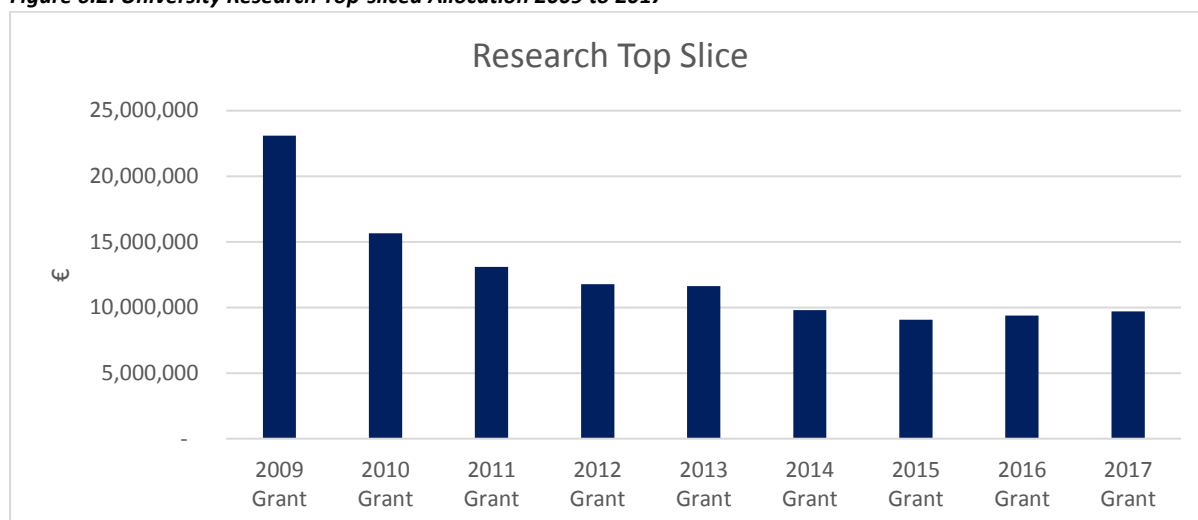
6.2 Research and Innovation

6.2.1 Universities

The importance of the research and innovation mission across higher education is clear, but there is some concern that the funding model does not appear to adequately reflect this. As we have noted, the current research-based allocation to universities offers a foundation investment to support research excellence across all disciplines. There is broad consensus that the funding model should continue to explicitly recognise the core university research mission. In this regard, we believe that the metrics used to reflect research activity could evolve to better reflect relative research performance. This should be advanced in tandem with a continued focus on research allocations via postgraduate student numbers, as these reflect research activity across all disciplines and provide the pipeline of skilled researchers that sustains and develops research capability and ultimately impacts on the economy, society and culture.

However, the decline in value of the research top-slice for universities as a result of the changing funding profile across the system has undermined the current funding model’s ability to adequately recognise their relative research performance. As illustrated in Figure 6.2, this research allocation declined from €23.1m in 2009 to c. €10m in 2017. This is an unintended consequence of the contracting funding base and should be addressed within the future approach.

Figure 6.2: University Research Top-sliced Allocation 2009 to 2017



While increasing the scale of the university research allocation is important, this must be accompanied by a comprehensive examination of the role of the block grant in supporting research overhead costs arising from competitively funded projects. The IUA full economic costing data suggests an estimated overhead rate of 65.4% for these projects and an average recovery rate from competitive sources of 20%. Applying this to 2014/15 competitive funding levels recorded in university funding statements, this would imply that around €150m is required from the block grant to support competitive research activities. Although lines can become blurred with regard to whether such indirect costs relate to specific projects or to building the general research capability of a group, centre or department, the scale of this gap is a major concern. Whatever the exact figure, as significant research overhead costs are clearly passed on to the core budgets of HEIs, there is an increasing belief that teaching and learning activity is now heavily cross-subsidising research activity. This will have implications for quality unless a coordinated multi-agency funding approach can be found to address overheads and sustainability.

The core principles underpinning the future funding model require both a metric-oriented and outcome focus and a transparent and simple approach. Thus, targeting a small number of core metrics which clearly relate to research performance within the research funding allocation mechanisms should be the aim. These could include:

- **Research Graduates:** The current university research top-slice measures research graduates (Masters and PhD) – rather than research student enrolments, for example – which embeds an outcome-oriented focus within the research allocation. This should remain but the extent to which university research allocations are weighted towards this indicator (currently 75%) should be reduced as additional metrics are adopted.
- **Research Income:** The remaining 25% of the current university top-slice is allocated based on competitively earned research income per academic staff member. This remains a valid metric and should have an enhanced role in the future allocation mechanism.
- **Research-Active Staff:** Measurement of research-active staff in an institution could provide a key link from funding to the building of specialist research capability which would ultimately deliver competitive funding success. At present, no widespread, reliable metric is available to measure research-active staff, and such a component would warrant careful and precise definition. However, this could be an avenue for exploration in future discussion with

HEIs, given that some have already formulated their own institutionally specific definitions of research-active personnel (TCD and DCU, for example).

- **Publications, Citations and Impact:** The current research top-slice does not take account of success in the area of publication profiles, citations and impact. For this purpose, a ‘basket’ of research metrics could be used, including both bibliometrics and, potentially, altmetrics.¹² Some relatively commonly used impact metrics are listed below, which could be taken as a starting point for discussion on how to build such indicators into the allocation mechanism.¹³:
 - Number of peer-reviewed publications
 - Number of citations/average citations per publication
 - Number/% highly cited publications
 - Category Normalized Citation Impact (CNCI)
 - Number of Papers with international co-author/% International collaborations
- **Knowledge transfer and innovation:** The panel noted a strong desire from external stakeholders to establish a more tangible link between HEI research activity and its application by industry within the funding model. There is a case, therefore, to consider using existing, established Knowledge Transfer Ireland (KTI) metrics to take account of the application of innovation to industry.¹⁴ Several potential metrics are suggested below:
 - Collaborative/contract services/constancy agreements with industry
 - Number of Invention Disclosures
 - Number of Patents filed
 - Number of Licenses, Options & Assignments (LOAs) executed
 - Number of Spin-outs established/active
 - Number of Companies Supported in Incubators

6.2.2 Institutes of Technology

The role of the IoTs in innovation across the regions and how this might best be reflected also needs to be considered in the context of future funding. Levels of research, development and innovation activity and performance vary significantly across the IoT network, and the entire competitive research funding base (across all 14 IoTs) is broadly equivalent to that of one of Ireland’s universities. Nonetheless, areas of considerable success have emerged. Waterford Institute of Technology, for example, hosted the most successful Irish research centre in attracting EU FP7 funding. Six institutes (WIT, AIT, CIT, DIT, DKIT and IT Sligo) are active participants within Science Foundation Ireland research centres, complementing university capability as part of a hub-and-spoke model.

¹² Altmetrics complement traditional bibliometrics by tracking the early impact of research outputs. For recent work in this area, see *Next-generation metrics: Responsible metrics and evaluation for open science Report of the European Commission Expert Group on Altmetrics*, 2017

<http://ec.europa.eu/research/openscience/pdf/report.pdf#view=fit&pagemode=none>

¹³ The Category Normalized Citation Impact (CNCI) of a document is calculated by dividing the actual count of citing items by the expected citation rate for documents with the same document type, year of publication and subject area. When a document is assigned to more than one subject area an average of the ratios of the actual to expected citations is used. The CNCI of a set of documents (for example, the collected works of an institution) is the average of the CNCI values for all the documents in the set. See <http://ipscience-help.thomsonreuters.com/inCites2Live/indicatorsGroup/aboutHandbook/usingCitationIndicatorsWisely/normalizedCitationImpact.html>.

¹⁴ KTI: *Annual Review & Annual Knowledge Transfer Survey*, 2015.

Although of a different scale in competitive funding terms, much value is placed by stakeholders on the IoTs' role as a pivotal driver of regional innovation and growth. There has been widespread coverage of their success in relation to U-Multirank, which includes many regional-engagement indicators.¹⁵ Their agility and responsiveness to working on smaller applied research and consultancy projects that can bring indigenous SMEs into the innovation system for the first time is recognised, and there is widespread use of mechanisms such as the Innovation Voucher scheme¹⁶ to facilitate this engagement. An important step was the development of a nationwide network of 15 Technology Gateways,¹⁷ funded by Enterprise Ireland and delivered through the IoT network, which provide access to technology and applied research capability for SMEs. The origin of many of these funded gateways can be traced back to the seed investment in research capability and postgraduate provision made by the HEA and Department of Education and Skills. There is concern that, without continued investment in a postgraduate pipeline and without wider research support infrastructure in these key areas of applied research capability, the sustainability of the industry impacts that have been generated will be under threat. The presence of business incubation centres across all IoTs, aligned with responsibility for running Ireland's largest start-up programme, New Frontiers, is a further key attribute of the sector but rarely forms a topic of conversation in strategic dialogue or budget and funding discussions.

The Panel note the importance of research and innovation within the core mission of IoTs and believe that the funding model should recognise this. The expected establishment of technological universities within the system will further enhance the role the merged institutes of technology in delivering on the research and innovation needs of their regions. There is therefore a case for the development of a research and innovation allocation along similar lines to that proposed for the universities, with postgraduate students, competitive research funding and knowledge transfer at the heart of driving allocations. We acknowledge however that any further dilution of institute funding via a new top-slice is inappropriate given present financial vulnerability.

We also recognise the importance of valuing existing research within the IoTs. We believe that applying different weightings to postgraduate research students in universities and IoTs undermines this and is at odds with the need for a consistent systematic and structured approach to postgraduate provision as set out in the National Framework for Doctoral Education.

6.3 Access to Opportunity

The overall goal of access policy in higher education is that the student population in our higher education institutions will reflect the diversity and social mix of Ireland's population. Access support refers to pre-entry work to recruit students from the target groups, appropriate teaching and learning and associated resources, participation in research and postgraduate opportunities, positive student experience and successful progression and completion. The target groups, the ways in which they are measured and their current treatment within the funding model, are set out in Table 6.1.

¹⁵ Niall Murray: 'Institutes of technology top of the class in third-level rankings', *Irish Examiner*, March 30 2017, <http://www.irishexaminer.com/ireland/institutes-of-technology-top-of-the-class-in-third-level-rankings-446449.html>

¹⁶ Enterprise Ireland provides support of €5,000 to a company to undertake small research or innovation projects with a HEI focused on particular business problems or potential solutions and is often seen as a 'door opener' which allows trust to be built between industry and academic partners and more intense engagement to ensue.

¹⁷ Further details here: <https://www.technologygateway.ie/>.

Table 6.1: Access Target Groups and Data and Funding Approaches

Target Group	Data Source	Treatment in RGAM
Socio-Economic Groups that have low participation rates in higher education	Equal Access Survey (voluntary self-declaration)	Funded for first 2 years of study
First time, mature student entrants	Student Records System (identified by date of birth)	Funded for first 2 years of study
Students With Disabilities	Numbers in Receipt of Funding from the Fund for Students with Disabilities (evidence of disability required)	Funded for entire course duration with a further multiplier of 2 applied to recognise additional support costs.
Travellers	Equal Access Survey (self-declaration)	Funded for first 2 years of study

During the review, some concern was expressed on the adequacy of the voluntary Equal Access Survey (EAS) as the basis for determining and funding access by target socio-economic groups, particularly in light of varying response rates across institutions (despite a relatively high overall rate of 70%). We understand that alternatives were considered as part of the National Access Plan consultations and development and that despite its shortcomings the EAS was agreed by stakeholders as the best approach currently feasible. The EAS has been audited with positive feedback on the quality and robustness of data and is consistent with wider CSO analysis. It should also be noted that the socio-economic cohort accounts for just 46% of all access students, with students with a disability and mature students also driving the allocation.

Nevertheless there is a commitment within the National Access Plan to develop a new data strategy and this will facilitate the further development of how access activities are funded. Areas of focus should include:

- Data on the profile of part-time students from target groups and linking funding to this
- Data on the retention of target groups and linking funding to this
- Incentivising access to postgraduate study by target groups. The need for this has been acknowledged in the UK and also in Ireland via the recent restoration of the SUSI grant for the most disadvantaged postgraduate students.
- Incentivising progression from further education
- Refining the weighting that is used to support services for students with disabilities, including whether the double weighting for high incidence/low needs groups be modified.
- Developing more robust socio-economic data.

Funding in respect of access is intended to cover all areas from pre-entry through retention to completion and beyond to employment, essentially supporting an adequate access infrastructure in each institution. There is no 'one size fits all' approach in this regard, as different HEIs with different student profiles will require different types of access infrastructure, some favouring more academic staff and some favouring other support approaches. There is, for example, a relatively larger proportion of access students in IoTs than in universities, with IoTs only accounting for 41% of the system's weighted student numbers but 52% of access student numbers, against 55% and 45% for universities (the remainder are students in specialist colleges).

There has been strong representation by the IoTs that the current funding model does not reflect their particular access role in higher education. The case is made that they recruit, support and progress a significant base of students, typically with lower levels of academic achievement at post-primary level and hence lower CAO points, providing regional access to college for a cohort that would not otherwise participate. They contend that this requires significantly greater access resources, apparent in dedicated support units, more intensive work with students on a 1:1 basis or in smaller groups, and in the mainstreaming of access supports and approaches across every aspect of teaching and learning.

The counter argument is that, if you take account of the significant pension commitments embedded within the university/college pot, and the fact that there are no such commitments in the IoT pot, then IoTs already receive a disproportionate share of resources, and that this is reflected in higher staff/student ratios within the institutes which take account of the higher support needs of their students. It is the view of the panel that until a consistent and comparable costing system is implemented across the entire higher education system, the application of the access funding adjustment should remain within each fixed pot.

We do however believe that there is a case to widen the base of funding to which the access funding adjustment is applied, recognising the central focus on access to educational opportunity within national policy. We have proposed that discipline based weightings are applied across all state and student contributions for all years of study. The situation for access weightings is more complex, given that these apply only to the first two years of study for target socio-economic groups, and involve an additional weighting for people with disabilities within the RGAM component. We believe that a logical approach would involve the extension of weightings to two years of the free fees allocation for target socio-economic groups and for the entire allocation for people with disabilities. This would increase the funding channelled in recognition of the HEI role in providing access to higher education from circa €10m to €20m.

This increased allocation would recognise that there is a minimum level of dedicated staffing required across the system to support access recruitment and retention, and that the funding model needs to support this core dedicated access resource, as well as addressing access and retention issues via its ongoing delivery of teaching, learning, research and other activities. While the principles of a block grant system discourage formally ring-fencing amounts for specific purposes, there has been some criticism during the consultation process that there is insufficient transparency with regard to how access funding is allocated within institutions. There is also concern at inconsistencies in the degree to which formal access plans at institutional levels specify the activities that support access and retention and how these will be enhanced.

While we do not wish to be prescriptive in a system which respects and values institutional autonomy in the direction of expenditure, the scale of the access allocation does merit some clear and consistent accountability reporting. This is best achieved within the strategic compacts agreed between the HEA and HEIs. While these have already placed a growing focus on access and retention, this should be built upon by agreeing a core set of relevant KPIs on which all institutions should report, embedded within the system performance framework, and also by a link to a comprehensive institutional access plan in a specified consistent format across the system.

6.4 Engagement

Delivering on all the above missions will be dependent on proactive institutional approaches to engagement with enterprise and employers, community organisations, education providers at all

levels and other national and regional stakeholders. Indeed, securing greater levels of external engagement by higher education institutions has been a common theme in almost all the recent national strategy documents which were referenced in Chapter 2 of this report.

Supporting and rewarding such engagement by institutions was a common priority across most stakeholders and has informed our thinking as we design the new approach. We set out the key elements of an effectively engaged system below, alongside ideas for how the funding model might encourage and reinforce behaviour in each respect.

For **industry**, feedback on HEI performance regarding research and innovation was generally positive from both relevant state agencies and industry representative bodies. However, concern was expressed regarding the responsiveness of institutions to the skills and innovation needs of industry, particularly those of indigenous SMEs. The model must encourage more effective and transparent approaches in this regard, particularly if an employer investment mechanism is to be introduced for higher education. We intend to put measures in place that can clearly channel funding towards skills development needs, which in turn will facilitate input from enterprise and employers on defining these future needs. This will support the growth and further roll-out of new apprenticeships, which are already characterised by innovative and varying delivery models which require a flexible yet targeted approach within the funding model. The need to improve engagement with SMEs should also be embedded as a key theme in the system performance framework, associated HEI compacts and future competitive funding programmes.

There is also a strong emphasis within the National Skills Strategy on growing the incidence of work placements, internships and other essential interactions with employers across academic programmes. Although these components undoubtedly have cost implications, we would caution against building them specifically into the core funding model, as too many levers will dilute its overall effectiveness. Given the intention that such initiatives should ultimately improve the employability for graduates involved, there is a case for employability to be a key initial theme for focused additional performance funding, and this is further discussed later in the report.

A key aspect of engagement must also revolve around **other education providers**. Progression from further education must remain a key focus in support for access, and this will be dependent on the further development of links with **FE colleges** and the Education and Training Boards. Outreach work with **schools** will have a critical role in attracting disadvantaged target groups into higher education, and the acknowledgement of such ‘pre-access’ costs provide a strong rationale for increasing the overall recognition of access student numbers within the funding base.

There is also a need for **higher education institutions to work together** constructively to address regional skills needs, partner around research and innovation, develop collaborative provision, reduce course duplication and support efficient shared services. The IUA and THEA as the main institutional representative groups, should be key drivers of this activity. The regional cluster strategy defined specific regional groupings of HEIs across the state and asked for collaborative responses across a series of themes. The clustering initiative met with mixed success, but we believe that collaboration across higher education remains critical to delivering on the vision we set out in this report. The establishment of the **National Skills Council and Regional Skills Fora** must be built upon with structured regional collaborative responses across HEIs, and with FE and other partners, to facilitate further development in this area. Support for institutional collaboration should remain a key consideration when agreeing capacity building investments to support system development.

There is also an onus on our universities, IoTs and specialist colleges to work constructively with other national and regional stakeholders to ensure that higher education remains a pivotal driver of social and economic progress. Engagement with the **health and local government systems** is particularly crucial, as is continuing the critical work done with **community and voluntary organisations** to reinforce regional impact.

We have identified some ways in which engagement can be more formally recognised across the funding model. However the most appropriate means, by and large, to ensure that engagement is embedded within institutional strategies is by having appropriate focus on this area within HEI performance compacts and robust challenge during the strategic dialogue process with the HEA. We understand that the Department of Education and Skills is considering identifying this as a clear objective within the new system performance framework and we support this move to provide a platform for a system which is recognised as being much more engaged with community, society and the economy.

7. Review Conclusions

This review presents an exciting opportunity to deliver a ***reformed and enhanced higher education system***. With the right conditions, and if fully implemented, we believe that it offers a future vision to:

- ✓ embed lifelong learning at the heart of Irish higher education provision;
- ✓ recognise and respond to the demographic challenges and changing patterns of student demand;
- ✓ make access and innovation central to all institutional missions;
- ✓ ensure that funding can be channelled effectively to support research and skills development; and
- ✓ reward institutions for delivering outcomes and impact.

While preserving institutional budgetary autonomy to ensure that each can remain agile and responsive to evolving national and regional needs, we set out a future direction that should ensure higher education remains a pivotal driver of economic and societal development in Ireland.

Yet the funding model does not operate in a vacuum and realising this vision is complex, with many key challenges to be addressed. While our remit is focused on proposing how funding is allocated, this cannot be advanced effectively without fully understanding these challenges and their importance to the future development of the system. As we conclude the review, we set these out as critical pillars of an effective future strategy alongside the new funding approach.

7.1 A Crossroads for Irish Higher Education

Throughout the last eight months, we have been struck by the strength of Ireland's higher education system, characterised by one of the highest global participation rates and a diverse range of regionally dispersed institutions. There is also a clear sense of a cohesive system with a common purpose, helped by its relatively manageable size (with 24 public HEIs); a clear policy direction from Government; and a strategic dialogue and performance framework that helps to steer higher education towards key objectives. It has been encouraging that the relevant state agencies and employer representative bodies have reinforced our own analysis that the system is performing well under strain, but that without additional investment it will struggle to maintain quality of provision and fulfil the external engagement role so critical in aligning HE with the scale of national ambition for continuing growth and employment and with wider skills and innovation needs.

Finding the most effective means of funding higher education in Ireland requires an understanding of its unique and rapidly evolving environment, with influencing factors including:

- uncontrolled student recruitment by institutions with state funding based on share of a fixed funding pot;
- a substantial demographic bulge, with higher education having accommodated significant growth in student numbers and expected to have the capacity to facilitate a continuation of this trend into the future;
- declining income in real terms, with the consequences of falling funding per student and rising student/staff ratios;
- limited flow of students between the further education and higher education systems.
- an emerging issue over the longer-term sustainability of research.

In short, this creates a perfect storm, where increasing the funding base under the sector is the only feasible means of securing a viable future. Ireland is therefore at a crossroads, where the scale and nature of this funding decision will determine the future role of higher education in the Irish economy, and the degree to which the recommendations from this review will deliver the reform and development required to maximise system impact.

7.2 The Value of Higher Education

The funding dilemma is widely recognised by Government, with an Expert Group chaired by Peter Cassells producing the report 'Investing in National Ambition: a Strategy for Funding Higher Education' in July 2016. This set out the case for a significant injection of resources into the system. It noted the role of higher education "at the heart of an enormous economic and societal transformation", where it had moved from the preserve of the elite to mass participation in a generation, with almost half of all workers now having a third level qualification. The work of the Group placed significant focus on defining and communicating the value of higher education to Ireland's society, economy, culture and public life, and its role in realising its' future ambitions to create more jobs, restore living standards, enhance social services and address societal challenges. In this regard it pinpointed four key channels:

- A high-quality student experience based on excellent teaching, research and scholarship across the full spectrum of humanities, social sciences and STEM disciplines;
- Innovation and knowledge creation across the economy, society and public sector, based on research addressing societal challenges, prosperity and human development;
- The knowledge and capabilities of graduates to meet the changing needs of organisations in the private, public and social sectors, while also enhancing individuals' careers and well-being; and
- Increasing access and participation in higher education as a part of the social contract.

The report also noted the resilience of the system in accommodating a substantial additional base of students with reduced levels of investment and without any discernible drop in the quality of outcomes. It made clear the increasing disconnect between staff/student ratios in Irish higher education institutions in comparison with most international peers and concluded that there was little scope to generate further efficiencies and maintain quality without an increased investment base.

7.3 The Urgent Need for Investment

Having analysed system finances, operations, performance and outcomes, ***it is the clear view of the Expert Panel that Ireland cannot continue to increase student numbers without increasing investment.*** We endorse the conclusion of the Cassells report that the current funding system is not fit for purpose and fails to recognise the current pressures facing higher education institutions and the scale of the coming demographic changes. Cassells recommended that additional annual funding of €600 million needs to be provided by 2021 and €1 billion by 2030 to deliver higher quality outcomes and provide for increased demand, and identified three sources of potential additional funding: the state, the student and employers.

We are encouraged by the announcement by the Minister for Education and Skills in 2016 of a three year €160m state investment programme in higher education. Likewise, the consultation process on the introduction of an employer-exchequer investment mechanism, which has been running in

parallel with this review, is warmly welcome and, if implemented, would deliver a second strand of the recommended future funding approach. We also keenly await the findings of the Oireachtas Committee on Education and Skills with regard to future funding and hope that this provides further momentum in restoring a long-term sustainable funding base to the system. While it is not the role of this review to advise on future levels or sources of higher education funding, we have been cognisant of the potential future contributions from exchequer, student and employer and have ensured that the recommended model is future-proofed and able to offer a transparent means of effectively channelling additional contributions from these groups.

7.4 Other Interdependencies

Addressing the ongoing recurrent funding issues is not the only barrier to realising the Government's ambition for higher education. There are a number of other interdependencies that will influence the organisation, operation and performance of the system and hence the ability of the proposed future funding model to maximise its impact. These include:

- The ***lack of institutional flexibility*** to deploy human resources effectively and adapt operations to maximise performance and respond to evolving needs. Finding a means to offer greater autonomy to institutions in this and other areas is essential in facilitating the agile and responsive system we will need to underpin future social and economic progress.
- The ***need to influence student behaviour and choices*** in accessing appropriate higher and further education opportunities via demand-side policy initiatives, including consideration of discounted fees, maintenance support, marketing of opportunities, career guidance, school outreach and evidence of future reward.
- The ***current significant capital deficit***, with an estimated €5.5bn required to ensure that adequate infrastructure is in place to maintain a quality campus environment and accommodate the projected increase in student demand. The issue is exacerbated by the lack of a borrowing framework for institutes of technology which inhibits their ability to address such issues independently.
- The agreement of a national cross-department, cross-agency and cross-institutional approach to ***funding the overhead costs of undertaking research*** that ensures that such activity is sustainable into the medium and longer term.
- The ***role of the further education sector*** in meeting Ireland's evolving skills needs, and the capacity to develop more integrated pathways between that sector and higher education
- The ***ability of employers to articulate their current and projected skills needs*** via such mechanisms as workforce planning frameworks within the public sector and national and regional skills advisory infrastructure which is charged with identifying needs within the private sector.
- The ***continued reform of the Irish higher education landscape***, most notably with the potential creation of a new type of institution, the technological university, as a product of mergers between IoTs.
- The ***challenges and opportunities presented by the post-Brexit environment*** in areas such as student mobility and residency rules, international educational programmes, academic/professional mobility/recruitment and research collaboration and funding. The nature of this environment will only become clear as negotiations between the EU and the UK progress and conclude.

While we have no way of predicting how these factors will develop, we have taken this evolving future context into account while constructing the future approach, seeking to ensure that it is sufficiently flexible to respond to any scenario. This means, for example, a model that can reward institutions appropriately if they are given the HR tools to deliver rapid responses to emerging skills needs. It is also a model which seeks to accommodate the potential for technological universities by recognising the research, innovation and engagement missions of IoTs, the importance of postgraduate research activity in such institutions, and allows funding to be channelled towards addressing regional skills needs. Nevertheless the uncertainty around these interdependencies means it is critical that the funding approach is kept under ongoing review by the HEA, adapting where appropriate as these challenges are addressed or as new unanticipated challenges inevitably arise.

7.5 The Case for Change

While the Cassells report is clear that there is insufficient funding in the higher education system, it also states that increased investment must be introduced in tandem with reform of the funding model to ensure that it is channelled for maximum impact. A necessary condition of additional funding is widespread acceptance that the higher education system is delivering efficiently, effectively and demonstrably against public and governmental expectations. The block grant approach which allocates public funding on the basis of broad performance, subject to meeting accountability and transparency standards, while also allowing institutional autonomy on how this is spent, is typical of nearly all international higher education funding approaches. It has also served as a strong driver of efficiency, rewarding institutions that can find a means to reduce cost below a standard unit of resource, by effective deployment of staff, control of non-pay costs or expanding student numbers. Nonetheless there are concerns that the funding model needs to continue to evolve to better reflect the unique conditions and changes in student base, funding profile, operations and performance since it was established. It is also important that the model underpins a clearer demonstration of how higher education delivers the outcomes required from the emerging Government policy agenda and provides confidence that the promised additional investment for the system will be channelled in an effective and impact-driven manner.

Care must also be taken in imposing radical change on a system that is already significantly stretched. If increased funding is delivered as set out in the Cassells report, then there is a real opportunity for this to be targeted in key areas while maintaining a core base of funding to sustain existing operations. Without this additional funding a multitude of new and different levers impacting upon the existing funding base would be likely only to have negative repercussions for future higher education performance and sustainability.

The Expert Panel sees a clear case for change in how institutions are funded and believes that we can transition to a reformed future model without such negative consequences. The current model made an important contribution to facilitating a step change in levels of higher education in Ireland and in the overall expansion of the system, but the context in which this system sits has evolved significantly since it was launched over a decade ago. As we have noted, the Government has set a high level of ambition for the future development of higher education and the wider education sector. To deliver on this, a funding approach will be required that is simpler and more transparent in terms of inputs and outcomes, but which is also able to support the flexibility and responsiveness now essential to meet rapidly changing economic and societal needs.

7.6 A New Model to Drive Economic and Social Cohesion

As an independent Expert Panel, we have been driven by a desire to ensure that the review is not merely seen as a technical exercise, applying marginal changes that shuffle existing resources around a complex and multi-layered system, but will serve as a ***lever for significant change in key areas that have a lasting impact on the nature of the system, the way it supports our students and generates the outcomes we need to flourish as a society and an economy***. While we recognise that maximising the impact from our proposed future approach will require the increased resources and change noted above, we believe that we set out a model, underpinned by clear and focused guiding principles, that will, if fully implemented:

1. Be transparent with greater clarity on how funding is channelled
2. Offer more flexibility in responding to changing patterns of student demand
3. Reflect the costs of providing different learning experiences across different disciplines
4. Be underpinned by a consistent and comparable costing system
5. Set a minimum standard unit of resource to underpin future sustainability
6. Fully recognise the research, innovation and engagement missions of all institutions
7. Ensure access to higher education remains central to all institutional strategies
8. Embed lifelong learning as a key priority in the future system
9. Clearly channel funding to meet skills development needs
10. Introduce a reward based approach to performance funding, while penalising poor performance and governance failures
11. Build management and leadership capacity, improve management information systems and enhance teaching and learning approaches across the system
12. Provide scope to fund innovative and transformative ideas and provide a platform for digital transformation.

In the next section we set out the individual components of the proposed future model in detail, making clear recommendations and suggesting an implementation approach in each case.

8. The Proposed Future Model

8.1 Overall Structure and Approach of the Model

A transparent model with greater clarity on how funding is channelled

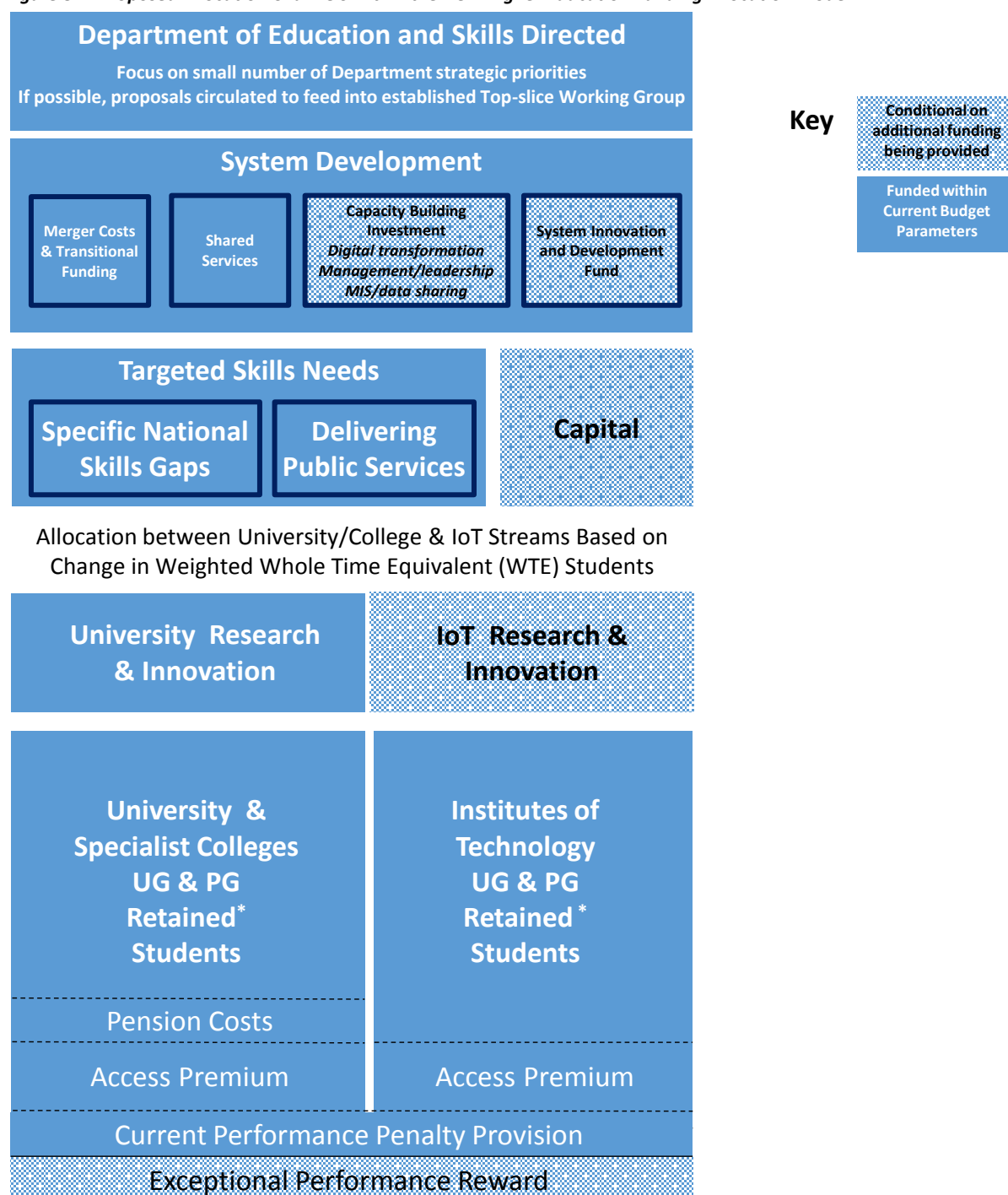
The existing model shares many of the core strengths of international higher education funding approaches, and the balance of student-driven allocations, directed and competitive funding streams and a performance funding mechanism offers appropriate tools to effectively steer the system in future. Nevertheless, the review has raised questions about the transparency and ease of comprehension of the model, which undermines confidence in its ability to ensure value-for-money in any additional investment secured for the system. Those concerns include perceptions that the model does not sufficiently support particular outcomes; specifically, that it does not fully articulate (or indeed recognise) the significant investment via the block grant to support an institution's research mission; encourage sufficient responsiveness to regional and national skills needs; and involves an excessive level of top-slicing spread across too many initiatives. Our analysis showed that many of these concerns are misplaced, but this suggests that significant focus needs to be given to the effective communication of the future model as it evolves.

The recommendations from this review are based around a clear and structured future funding model, comprising a range of allocation channels, as set out in Figure 8.1 on the next page. Please note that this diagram reflects only the components of the proposed approach, and does not offer an exact portrayal of the relative scale of each component. The core driver of the model remains the number of retained students, as recorded in the student audit in March of each year. While we considered other options to reflect progression of students within institutions, such as basing core allocations on credits awarded or implementing a rebate system where a portion of the grant is withheld until degree completion, it was felt that these approaches would add a further layer of complexity to a model that we believe already reflects retention. Nonetheless student progression is central to ensuring value-for-money for Exchequer investment in higher education and it is important that other mechanisms within the funding approach are used to ensure appropriate focus and accountability. Indeed we recommend it as one of the key themes around which a future rewards-based performance funding system could be based later in this chapter.

This structured model aims to provide greater clarity on the basis on which funding is allocated, while moving away from the catch-all top-slice category which has in the past seemed to subsume many interventions which would be considered part of the mainstream grant allocation model in other international systems. It should also support a more consultative approach, where plans for investment can be clearly identified in advance to facilitate discussion with the system and other key stakeholders, and facilitate their smooth implementation. We have noted that this consultative approach is working well around HEA top-slices, where proposals are presented to a working group involving the IUA and THEA to allow them to input views before formal decisions are made, and there is value in considering all new strategic directed investments in this way to ensure clarity of purpose across the system.

The structured model will allow particular areas of development to be targeted in a transparent manner (e.g. identified national skills development needs for particular sectors) as additional funding becomes available. However while allocation channels will be clearer, the principle of institutional autonomy in relation to the internal allocation of funds must remain, and the model will continue to allow institutional expenditure to be directed in an agile and responsive way.

Figure 8.1: Proposed Allocation Channels within the New Higher Education Funding Allocation Model



*Please note retained students refers to those students retained by the institution at March of each year

This more transparent approach will allow the Government to invest with confidence in reinforcing the core resources available to institutions, while introducing new targeted funding strands to address particular challenges. Given the urgent need to ensure the sustainability of the sector, we would suggest a balanced approach to allocating additional resources between core and the targeted new strands which are proposed within some of the review recommendations.

A more flexible system reflective of changing patterns of student demand

In a higher education system that is rapidly changing, the logic of maintaining a very rigid 'two pot' funding approach with fixed proportionate allocations to universities/specialist colleges and institutes of technologies seems flawed. We believe that in principle the future funding model should adopt a universal approach to supporting all higher education institutions. This will involve the same standard student driven methodology determining base allocations, and a broadly universal set of metrics for research and innovation support, with individual adjustments and targeted funds ensuring that sufficient incentives remain to protect and reinforce the diversity of different individual missions. It will be consistent with and complement the system performance framework which will remain the pivotal accountability tool for wider institutional performance. The model should also clearly separate the pension costs faced by institutions, and the funding awarded to support such costs, to ensure a focus on their ongoing operations.

However, while this should serve as the long-term goal for the model, the shift to a universal funding pot must be delayed until we have a comprehensive basis for understanding and comparing the costs of delivery in universities and IoTs, and any significant variations in their historically derived cost bases. Other factors must also be taken into account, such as the inconsistency in the regulatory and HR framework between the two cohorts. Under the current two 'pot' system, itself the product of the historical addition of the IoTs (with their distinctive funding approach) to the HE funding system, there has been no need for this detailed comparative understanding, but with the proposed move to a universal approach, we must ensure that we start, and proceed, on a fair basis.

Until these issues have been addressed, it will be impossible to determine how to move to the single pot system in a fair and balanced manner. In the meantime, however, and in order to make progress towards the proposed new approach, we have concluded that we should no longer maintain the existing rigid 60/40 split between the two pots and should instead introduce a 'fluid two pot system' for an interim period. Under this approach, the allocations to universities/colleges and IoTs would be adjusted annually for the relative changes in the proportion of whole-time equivalent (WTE) retained student numbers in each cohort.

This concept of a retained student is critical in demonstrating the outcomes focus of the future funding system. Currently the student numbers on which funding allocations are based are drawn from those still retained by institutions in March each year. It must be made much clearer that the model is only recognising students retained for the majority of the full academic year. Progression and completion are critical to the success of the system and this concept of the retained student must also be underpinned by a strong focus on these issues within the system performance framework and associated HEI compacts.

We have also concluded that the operation of, in effect, a 'third pot' as a sub-set of the universities funding stream to meet the requirements of the dwindling number of smaller colleges should be discontinued. With the integration of St Angela's College into NUI Galway planned in the short-term, there will only be two independent specialist colleges within this pot: Mary Immaculate College and the National College of Art and Design. While broadly the same model (i.e. weightings, access adjustment) has applied to these colleges as for universities in recent years, they have been protected to some degree with higher average increases in grant level (or smaller average declines during austerity) and dedicated pension funding to meet exceptional liabilities (e.g. lump sum payments on retirement) in order to give them some further protection in recognition of their small scale and exposure to sudden fluctuations in income or expenditure. While there remains a rationale for such additional pension funding as need arises, the colleges should be fully integrated into the university

model in all other aspects, with consideration given to some additional allowance for a transitional period to allow time to adjust to any long-term funding implications.

<i>Rec 1</i>	<i>An implementation plan for establishment of a fully universal system should be agreed when recommendation 7 has been fully embedded and there is greater clarity on the future institutional structure across the higher educational landscape</i>	<i>The transition plan to a universal system should be agreed by end 2019 with implementation commencing from 2020.</i>
<i>Rec 2</i>	<i>The current 'two pot' system should be replaced, in the interim, with a 'fluid two pot system', with the relative allocations to universities/colleges and IoTs adjusted annually to take account of relative changes in weighted WTE retained student numbers</i>	<i>Implemented for 2019</i>
<i>Rec 3</i>	<i>The remaining specialist colleges should be fully integrated into the university funding model</i>	<i>Implemented for 2019 with separate pension funding arrangements maintained and transitional funding agreed to ensure institutional stability</i>

8.2 Reflecting the Costs of Provision

A cost reflective system with the role of discipline-based weightings reinforced

The analysis presented by the review has demonstrated the dilution of the impact of discipline-based weightings in recent years, as an unintended consequence of the replacement of state funding with student contribution and the wider contraction of Exchequer investment. We received strong representations that the model has increasingly disincentivised STEM and other higher cost provision in institutions, running counter to wider Government policy to build further capability in such areas. Despite the potential for adjustments to the model to impact negatively on particular colleges, we were encouraged by the acceptance by most that in principle the weightings should be applied across a wider base of funding.

We consider that there is a strong rationale for discipline based weightings to be applied across the student contribution, free fees and RGAM allocations received by institutions. These two latter categories should merge to become a holistic state contribution to the income of the institutions. We do not underestimate the complexities in implementing this approach, with a long-term Government commitment to meeting the fees of all first-time undergraduates on the basis of long-standing fee levels. It is understood that a review of the free fees system is planned by the Department of Education and Skills in recognition of such issues. Given the urgency in addressing the unintended dilution of weightings, we therefore recommend that an adjustment is made within the RGAM allocation to each institution to reflect the full application of discipline-based weightings across the current student and state funding components. We also consider that this approach could be satisfactorily carried forward were there to be a decision to address the funding deficit identified in the Cassells report by means of income contingent loans.

In implementing these recommendations, further consultation with the higher education system is required to determine the appropriate approach to recognising postgraduate provision across the entire state and student funding base. Postgraduate programmes attract a fee directly from the student, and while they have always been recognised within the RGAM component, they are not included within the free fee allocation nor the student contribution. There is a case for including postgraduate weightings on at least a partial basis across the entire student and state funding allocation to further incentivise this critical aspect of higher education, perhaps by building in a discount based on an assumed fee level. It is important that input from institutions is sought on the modelling of such changes before a decision is made by the HEA on how to progress.

Rec 4	<i>The HEA should work with the Department of Education and Skills to facilitate a move towards a fully transparent cost-reflective weightings based allocation system applied to an agreed student and state income base reflecting the legacy based free fees element and existing RGAM allocations</i>	<i>Review of the free fees system to be completed by mid-2018.</i>
Rec 5	<i>An adjustment should be made to annual RGAM allocations to apply full discipline-based weightings across the student contribution, free fees and RGAM allocations invested across the system. The appropriate treatment of postgraduate provision in this approach should be agreed by the HEA following further modelling and consultation with key system stakeholders.</i>	<i>Implemented on a phased basis across 3 years from 2018 pending agreement with Government in relation to the treatment of the free fees element of the grant. Postgraduate treatment to be agreed by implementation group (as per Recommendation 31)</i>

The appropriateness of specific weightings for particular disciplines attracted much comment throughout the review and was an emphasis in many submissions. Definitive conclusions on the appropriateness of all weightings is impossible given the costing issues flagged above and the impact of funding constraints. There is some evidence that these constraints have resulted in a decline in the relative costs/spending in respect of higher weighted disciplines, perhaps due to reduced lab exposure, an inability to invest in renewal of equipment or a reduction in technical support.

We also believe that current overall weightings are broadly appropriate, pending the implementation of the consistent and comparable costing system. It is important to recognise that weightings are only intended to broadly reflect different categories of costs, and cannot reflect all of the individual cost variations from programme to programme. It is also critical to understand that institutions decide on their academic discipline mix with knowledge of the costing system, and that there will always be a role for offerings deemed strategically important to HEI reputation and profile that require some cross-subsidisation from revenue generated from other disciplines or sources.

One weighting issue highlighted to the panel surrounded the appropriate weighting for postgraduate taught provision, where there was a view that the current weighting is higher than the equivalent additional cost premium. Understanding these relative costs should be a key focus within the new costing approach. Certain specific weighting issues will require separate independent reviews,

although the approach to be taken will depend on the nature of the case as outlined in recommendation 6.

Rec 6	<p><i>The following approach to discipline-specific weightings is proposed:</i></p> <ul style="list-style-type: none"> <i>Subjects currently receiving additional funding (e.g. dentistry, vet science) in recognition of a significant gap between funding and costs are re-weighted to reflect this current contribution</i> <i>The HEA should review issues raised of inconsistency in the subject categorisation approach between universities and IoTs and make recommendations on appropriate categorisation moving forward</i> <i>Subjects that have been subject to an academic reform process (e.g. pharmacy, engineering, initial teacher education) to be assigned appropriate weightings following detailed reviews</i> <i>Other subjects (e.g. optometry, computer science) where a case has been made around inappropriate weightings to be dealt with via separate reviews to determine if re-weighting appropriate</i> 	<p><i>Following required reviews, the HEA should recommend re-weightings and any subject re-categorisation for implementation in 2019. Other reviews complete and recommendations made with effect from 2019 allocation.</i></p>
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We have some concern at the variation of the length of programmes between institutions offering the same level of accreditation, and while there may be an academic rationale for such divergence, the issue does merit further consideration by the HEA, working with QQI and the institutions, as there are clear funding implications (i.e. a 4 year B.A. course attracts 33% more funding than a 3 year B.A. course which could in theory encourage the lengthening of courses without strong system oversight). Four year courses could also reduce the amount of places available for entrants and this is of some significance considering the estimated increase in demand for higher education.

A consistent and comparable costing system to underpin an effective funding model

Neither the move to a full economic costing system by the universities nor the continued focus on a unit costing approach by the IoTs offers, in the view of the panel, a full understanding of the costs of providing higher education. We therefore recommend a short, focused review following this exercise to establish a single, shared costing approach to be implemented across all higher education institutions. This should be fully up-and-running by the beginning of 2019 and will underpin the future funding model's transition to a universal system.

The new consistent costing approach should include appropriate recognition of the cost of maintaining and renewing the capital stock of institutions, as it is clear that this is a significant deficit which is constraining the future sustainability and competitiveness of the system. While the choice of whether to publicly fund this cost is a matter for the Department of Education and Skills, there is a case for including an annual capital contribution within the funding model to at least partially meet the need to continue to invest in campus infrastructure and ensure capacity exists to meet projected student demand. The majority of institutions are unable to generate sufficient surpluses to invest appropriately in this area from their own resources, and the dependency of the IoTs on a devolved grant which has been forthcoming from the Department in 13 of the last 16 years, coupled with the constraints on their capacity to borrow for capital investment, is clearly apparent. The inclusion of an

annual capital contribution could also be used to clarify the responsibility of the institution to ensure that capital stock is adequately maintained, as there still seems to be a view across the system that this remains a fully state obligation despite the lack of resources for this purpose in recent years. This proposal for an annual capital maintenance allowance is separate from the need for additional investment to meet the significant capital infrastructure deficit which currently exists across the system, and which will continue to constrain capacity to meet projected increases in student demand. However it does illustrate the implications that capital infrastructure has for recurrent budgeting, and it is important that the business case for investment in any new capital funding also includes an ongoing provision for managing the maintenance of the new stock.

<i>Rec 7</i>	<i>A review should be undertaken to establish a consistent and comparable costing system and reporting requirements across all higher education institutions. The new costing system should be fully implemented for 2019/20.</i>	<i>Recommendation on new costing system made by March 2018 with full implementation for the financial year 2019/20.</i>
<i>Rec 8</i>	<i>The cost of maintaining capital stock should be reflected within the new costing system and within the new funding model. It should be agreed with the Department of Education and Skills the extent to which this cost can be met by the Exchequer.</i>	<i>Conditional on additional funding, with clarity on provision of an ongoing Exchequer capital contribution to be sought by end 2018.</i>

Establishing a minimum standard unit of resource to underpin future sustainability

The panel is acutely aware of the funding constraints which severely undermine the capacity of the higher education system to accommodate the expected further increases in student demand. We have found little interest in capping student numbers, yet any further unfunded student growth in unsustainable and will undoubtedly impact on the quality of provision. This is unacceptable for a system that must continue to pursue excellence across all aspects of provision.

Other systems have used capping to guarantee a minimum standard unit of resource for each student in an institution. Without capping, and with the constraints of an annual Exchequer budgeting cycle, we acknowledge that it is immensely challenging to set a multi-annual level of funding per student where student numbers are not 100% clear (although they are, we would argue, reasonably predictable). We are nonetheless encouraged by the Minister's commitment last year to a three-year package of increased higher education investment, and the inclusion within that of an allowance for demographic increases in student numbers. This suggests that there might be scope to set a minimum standard unit of resource for a fixed time period to give confidence and protection against any further decline in relative funding. Given the advent of a new system performance framework with a new base of objectives set down by the Minister, we would suggest that this provides an opportunity to set a standard minimum resource level per student over the three year period in return for delivery of these objectives. This would mean either a commitment from the Government to provide additional finance beyond the budget if more students turn up than was anticipated, or a limit being placed on recruitment institution by institution to reflect the three year projected demand levels.

Rec 9	<i>The potential for agreeing a minimum standard unit of resource with the Minister for Education and Skills over the period of the system performance framework in line with the delivery of agreed objectives should be explored</i>	<i>Implementation within new system performance framework if agreement can be reached with the Minister.</i>
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8.3 Supporting Research and Innovation

Enhanced support for the research and innovation missions of universities

A significant proportion of HEA funding for universities is channelled to support their research mission, with an estimate of €143m in this regard from the 2017 allocation. This is in keeping with the commitment of the HEA to making a foundation investment in embedding excellent research across the higher education system, allowing institutions to offer permanent tenure to Principal Investigators, put the research support infrastructure in place that facilitates the securing of competitive grant funding, and freeing-up the time of academics to supervise postgraduate students and conduct research across all disciplines. This must remain a critical purpose of the block grant but the channelling of such funding has not been as transparent as it might have been, with funding predominantly flowing via allocations for postgraduate student numbers. Additional research funds have been provided via a declining top-sliced performance based award largely driven by postgraduate completions with a smaller weighting for success in attracting competitive funding. As with our earlier finding on the impact of discipline-based weightings, we consider this decline to be an unintended consequence of the changing funding environment and believe that there is a case to increase the proportion of the RGAM component allocated on the basis of research performance from 5% to 10%. This proportion should also be kept under ongoing review and adjusted as appropriate as further work is undertaken to understand and reflect research and innovation performance within the funding model.

We also see merit in further developing an outcomes based approach to allocations for research and innovation. Postgraduate completions and competitive research funding remain valid outcome metrics to underpin such an award, although there is a case for a more balanced weighting between them. The advance in knowledge transfer activity and the gathering of timely and robust metrics as a result of the establishment of Knowledge Transfer Ireland affords an immediate opportunity to build in a select range of these metrics. We also heard significant support for including bibliometrics within the mechanism in order to further reflect the impact of research, although this needs to be progressed with caution, recognising the significant variations in the nature of, and practice around, bibliometrics across the range of disciplines. The panel believe that the inclusion of bibliometrics has value but its practical roll-out must be developed and agreed with institutions and key stakeholders. Consideration could also be given to whether a measure of research active staff can be incorporated into the model, as the panel sees a rationale for such a step but also recognises that there is currently no consistent system of gathering such data and hence no short-term prospect of being able to incorporate this into the model.

We therefore propose the following new approach to a top-sliced research and innovation award for universities:

- 45% in line with postgraduate completions
- 40% in line with competitive funding
- 15% in line with a small number of agreed KTI metrics
- Consideration of how bibliometrics can be introduced into the model over time

- Investigation of the feasibility of building a measure of research-active staff into the award over time

Looking beyond our immediate work, we see a looming issue over the medium to long term sustainability of research in Ireland that needs to be addressed. This arises from the fact that funding for research needs to cover not only the immediate, recurrent, costs of research staff and other fixed term costs, but also the longer term maintenance, modernisation and replacement of buildings (often with very exacting requirements for leading edge research), and similarly for expensive equipment. Unless these ‘overhead’ costs are adequately met, the more Irish researchers win competitive funding (be it from Irish sources, or the EU, or elsewhere), the more they create significant problems for their institutions over how to meet these longer term costs.

HEA core funding provides a foundation investment to enable institutions to win competitive research grants, but is not intended to service research funding won from competitive sources. This ‘servicing cost’ should be financed by overhead contributions made by other research funders. But the total does not meet the need, with the current system not reflecting the significant proportion of resources required, and the current upward trajectory of Irish research performance will exacerbate the issue. We therefore consider that a cross-Department (DES & DEI), cross-agency (HEA, SFI, HRB, IRC, EI) and cross-institution (IUA, THEA) solution needs to be agreed to address the issue of research overhead funding as a matter of urgency. Given the interest of all such parties in the definition of HEA research funding allocation metrics, there is an opportunity to form a National Working Group on Research Funding to agree a way forward. This group should also include industry representation given their role as collaborative partners in many research funding projects and pivotal role in delivering impact from research.

Rec 10	<i>The scale of the research and innovation allocation for universities should be doubled to represent 10% of RGAM funding (or at an equivalent monetary value under the proposed new combined state and student income driven approach) and to address the dilution of its value as a result of the changing funding environment.</i>	<i>The research and innovation allocation should increase from 5% to 7.5% in the 2018 allocation and from 7.5% to 10% in the 2019 allocation.</i>
Rec 11	<i>The research and innovation allocation should be developed to reflect a wider base of outcome metrics. 45% of the award should be based on postgraduate completions, 40% on competitive research funding and 15% on agreed knowledge transfer indicators, with potential to introduce bibliometrics and research active staff as future KPIs within the funding mechanism</i>	<i>Knowledge transfer metrics agreed and launched for 2019 allocation. Bibliometric and staff metrics implemented if agreement reached from 2020.</i>
Rec 12	<i>A National Working Group on Research Funding, chaired by the HEA, and including industry representation, should be established to agree a cross-Department, cross-agency and cross-institution approach to funding research overheads and agree metrics for future allocation of HEA research and innovation block grant funding.</i>	<i>Group should be formed in Q4 of 2017 and complete its work by the end of Q2 in 2018.</i>

Recognition of the research, innovation and engagement focus of IoTs

The recognition of a research and innovation mission within the funding model can no longer be confined to universities and the panel has acknowledged the important role played by IoTs in undertaking research in key areas and driving regional innovation and enterprise growth. The evolution of this sector, including the potential creation of technological universities within a relatively short timeframe, requires that formal recognition be given to this contribution. It is certainly clear that the IoTs have a differentiated role within the space, with their activities tending to be more focused on applied research and involving a far greater concentration of indigenous SME partners. At the same time we must acknowledge that the IoTs and wider system are continuing to evolve, so that creating a completely different set of metrics for the IoTs could reinforce a rigid, two tier system. Our proposed approach therefore involves using the same funding mechanism and metrics as suggested above for universities, but with a greater weighting attached to knowledge transfer metrics, as set out below:

- 20% in line with postgraduate completions
- 40% in line with competitive research funding
- 40% in line with a small number of agreed KTI metrics

We have also noted the financial vulnerability of the IoTs, and are conscious of the fact that any further dilution of the current funding available will only exacerbate such problems. While we believe that a research and innovation funding allocation of up to 5% of RGAM funding is a critical priority, there is only scope to introduce this as additional investment is made available given the wider financial context. The proportion of grant set aside for this allocation should also be kept under ongoing review, as it should adapt and respond as the research and innovation capacity of the IoTs evolves, particularly with the planned creation of Technological Universities.

This principle of recognising research and innovation performance in both universities and IoTs requires the funding of postgraduate research students to be aligned. Currently the university model applies a weighting of 3 to students taking 90 credit research programmes and 2 to those taking a 60 credit programme, while the IoT model applies a weighting of only 1.8 in both cases. There is an argument that the cost of supporting postgraduate students in both types of institution does differ, but as we have noted there is no consistent or comparable cost data to allow us to draw definitive conclusions on this regard (or indeed to determine with confidence that these weightings are appropriate). However if a universal model for an evolved and restructured system is to be the end goal, and the research and innovation role of IoTs is to be properly recognised, we believe that a differentiated postgraduate research weighting can no longer be justified. Until such time that robust cross-system cost analysis becomes available, we believe that the university weighting of 3 is appropriate and should be extended to the IoT model.

Rec 13	<i>A research and innovation allocation for the IoTs should be introduced, at a level of up to 5% of RGAM funding (or at an equivalent scale under the proposed new combined state and student income driven approach). This should be allocated on the basis of postgraduate completions (20%), competitive research funding (40%) and knowledge transfer metrics (40%)</i>	<i>A research and innovation allocation for the IoTs should be introduced as additional funding is made available.</i>
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Rec 14	<i>The postgraduate research weighting in the IoT and university student funding allocations should be aligned to the university levels.</i>	<i>Implemented on a phased basis across 2018 and 2019 allocations, with full review of the appropriate system-level weighting after implementing Recommendation 7.</i>
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8.4 Access to Higher Education

An evolving approach to reflecting access

The transformative impact of a generation accessing higher education for the first time cannot be clearer in the Irish context, and there was an overwhelming consensus on the importance of keeping access indicators at the heart of how we fund our institutions. For the five-year duration of the National Access Plan 2015-2019, the HEA and the DES are committed to increasing participation in higher education by groups who have been under-represented¹⁸ up to now. We recommend that this national policy focus on access is reaffirmed by increased recognition of access performance within the funding model, with extension of access weightings across the proposed overall state contribution.

We also believe that there is scope to develop and deploy a wider range of access data in support of the future funding model, particularly in targeting socio-economic groups where allocations are currently driven by results from the voluntary Equal Access Survey. The National Access Plan includes a commitment to develop access data and in early 2017 the HEA issued a request for tenders to undertake the development of an access data plan. Central to the data plan will be recommendations on the data indicators required to understand the socio-economic profile of students accessing and completing higher education. It therefore makes sense to await their advice on the most appropriate future data on which to allocate an access tranche of funding when they have completed their deliberations.

There is a particular issue with regard to fully understanding and comparing the costs of access support infrastructure across institutions and determining the best practice elements within such an infrastructure. Understanding these costs must be an important consideration in the setting of a new consistent costing approach across the system (as per Recommendation 7). We recognise that this is a complex task, as to some extent access support is mainstreamed within every day teaching. It will be helped by a planned review by the Department of Education and Skills and the HEA on access infrastructures and the funding model should take account of the findings of this review when published. However until we have this detailed information and more forensic access costing data, we have no reason to question the continuing validity of the 0.33 weighting and propose that it remains as is. We do however believe that access weightings should, as far as possible, be applied across the entire state contribution and this will reinforce the importance of access within the funding model, increasing the overall allocation on the basis of access students.

There is a need to recognise that access to part-time education is just as critical for improving participation of disadvantaged groups and the access weighting should be introduced for all students with disabilities and from target socio-economic groups. Mature students represent almost the entire

¹⁸ These include socio-economic groups that have low participation rates in higher education; first time, mature student entrants; students with disabilities; and travellers

cohort of lifelong learners and are motivated by many different purposes and it does not make sense to include this category within the part-time access numbers.

The transparency of spend by institutions on access supports also attracted some comment. While we do not wish to be prescriptive in a system which must allow institutional autonomy over expenditure, the scale of the access allocation does merit some clear and consistent accountability reporting. This is best achieved within the strategic compacts agreed between the HEA and HEIs. While these have already placed a growing focus on access, this should be built upon by agreeing a core set of relevant KPIs on which all institutions should report, and also by a link to a comprehensive institutional access plan in a specified consistent format across the system. As a minimum this access plan should make clear the access support infrastructure which is in place within the institution.

<i>Rec 15</i>	<i>The use of the Equal Access Survey as the basis for access allocations on the basis of target socio-economic groups should be reviewed by the HEA, with consideration given to how a wider base of metrics can be developed and drive access allocations over time.</i>	<i>HEA to make recommendation by Spring 2018 with implementation commencing on a phased basis thereafter.</i>
<i>Rec 16</i>	<i>Access weightings should be applied to part-time students with disabilities or from target socio-economic groups on a pro-rata basis within the state grant allocations. This latter group will require additional data gathering via the EAS or a new approach as recommended by the HEA.</i>	<i>Part-time students with disabilities included from 2018 allocation. Students from target socio-economic groups included when data can be gathered.</i>
<i>Rec 17</i>	<i>The application of access weightings should be extended to incorporate two years of the free fees allocation for target socio-economic groups and for the entire free fees allocation for people with disabilities.</i>	<i>Implemented on a phased basis across three years from 2019</i>

Recognition of the costs of delivery on regional campuses

One core aspect of regional access to higher education is provision across multiple campuses at a less than optimum scale. In general we believe in the principle that it is the institution's responsibility to find a way to structure provision within these campuses, and to address the financial and staffing issues through the usual repertoire of revenue generation, cost reduction, regional collaboration, cross subsidisation, and so on. There are many examples of successful satellite campuses in higher education internationally. But there can be cases, especially in rural areas, where wider considerations, including lack of other accessible provision, and operational inflexibility around HR, require institutions to work in exceptionally difficult circumstances. It is also important to recognise that every institution with responsibility for multiple campuses is faced with entirely different challenges and a 'one size fits all' solution would not be appropriate.

We do not want to incentivise the creation of more campuses, nor provide additional funding for campuses that lie within large catchment areas with other nearby providers. However the financial review of the IoTs in 2016 did show that there was a serious issue that had to be addressed for particular cases and we therefore recommend an allowance within the base funding allocation for those categorised as operating additional regional campuses by the HEA based on the following criteria:

- That the campus serves a regional area with no other alternative higher education provision within a reasonable distance
- That the campus lacks the critical mass of students to allow sufficient overheads to be generated to ensure that adequate student and administrative support infrastructure can be put in place
- That the HEA is satisfied that there is robust evidence of a deficit relating to the campus and that the parent institution is taking all reasonable action to ensure that it can move to a sustainable position.

This award should be set at a modest level to reflect the presence of some core unavoidable costs and ensure there is no disincentive to maximise efficiencies across provision or to seek innovative solutions to generate revenue, reduce costs and reflect a wider regional development remit within such campuses. Beyond this, any additional ring-fenced agreements to subsidise the provision on particular campuses will be the preserve of separate Government decisions. However we would strongly recommend that any such solutions are time bound to a maximum period of 4 years and are given on the assumption of the institution ensuring a sustainable operating model beyond that period.

<i>Rec 18</i>	<i>An additional funding allocation of up to €250,000 per annum should be given to those HEIs with additional regional campuses (which meet criteria as specified by the Finance Committee of the HEA) in recognition of unavoidable fixed costs in operating such campuses. Any additional ring-fenced funding arrangements should be for a maximum period of 4 years and based on a requirement for a sustainable operating model to be in place by the end of this period.</i>	<i>Implementation of the annual contribution from 2018. Parameters around ring-fencing arrangements to be agreed with Department of Education and Skills.</i>
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8.5 Skills Development

Lifelong learning embedded at the heart of the funding model

While there were varied perspectives across many of the issues considered as part of this review, there was a clear consensus on the need for lifelong learning to be given more recognition within the future model to reflect Ireland's relatively low current participation levels and its critical role in serving Ireland's evolving skills development needs. Currently there is acknowledgement within the RGAM component of the model of lifelong learning on a pro rata basis in line with the credits awarded. The free fee allocation does not recognise part-time learning because this applies to full-time undergraduate provision only, whereas lifelong learning attracts a fee directly from the student. Such fees vary significantly, and there is an argument for taking account of the fee paid by the learner somehow in the model to ensure that you are not double-funding such activity. However such is the need to incentivise much greater levels of part-time provision, we believe that there is value in considering any such fee top-up as a bonus, with potential to encourage institutions to set lifelong learning fees at low levels as they expand provision in this area. The panel therefore recommend that the earlier adjustment to apply weightings across all basic student and state income also includes all part-time provision on a pro rata basis in line with the credits awarded.

We are conscious that lifelong and online learning delivery is being led by a small number of highly proactive institutions, and there is a need to mainstream this across the wider system. We are also conscious that investment in enhancing wider teaching and learning approaches, from developing pedagogies, enhancing methodologies and incorporating new modes of delivery, has suffered due to wider funding constraints. Investment in capacity building across teaching and learning will be important, particularly in providing a platform for the digital transformation of learning, where the potential for shared solutions across the sector is also significant.

<i>Rec 19</i>	<i>All undergraduate part-time and flexible learning provision should be recognised by applying appropriate pro rata credits-based weightings to the entire student and state contribution, providing an additional incentive to expand provision in this area. The appropriate treatment of part-time postgraduate provision should be agreed by the HEA as part of the wider review of postgraduate weightings under the new model (see Recommendation 5)</i>	<i>Implemented on a phased basis over three years from 2019.</i>
<i>Rec 20</i>	<i>An investment should be made in capacity building to develop teaching and learning approaches and facilitate digital transformation of learning delivery across the system</i>	<i>Strategic investments made from 2018..</i>

Clear channelling of funding to meet skills development needs

The need for greater transparency in the funding model has been noted, and this is particularly critical in demonstrating how skills development needs are targeted. The analysis undertaken during this review has demonstrated that a significant proportion of the grant is allocated on the basis of provision to meet identified skills gaps across both private and public sectors. With the potential for an employer-exchequer investment mechanism in higher education currently being considered by Government, it is critical that the model can demonstrate to employers how funding is and can be channelled into skills development areas. This will facilitate accountability from any additional funding from this source.

Springboard is acknowledged as an excellent model of how competitive funding can deliver innovative higher education solutions and there should be a role for competitive funding in continuing to meet identified skills needs as they evolve. As with Springboard, such funding should be open to both public and private higher education providers, but care should be taken not to create a multitude of costly administration-heavy programmes allocating relatively small amounts of funding. Rather a single rolling overall Springboard type programme to target specified skills needs as additional funding becomes available would be preferable, taking some but not all of the additional investment available (with the rest channelled directly into existing areas of skills development). The further development of the apprenticeship model should be seen as a significant opportunity for higher education and must be resourced accordingly within the future funding approach via these skills development channels. It is also an example of an intervention where higher education and further education can work hand-in-hand to deliver skills solutions, and we must also support the further development of integrated pathways between both sectors as a key means of meeting skills needs and providing opportunities at local and regional level.

We have resisted the temptation to insert direct components within the funding model that are linked to specific aims within the National Skills Strategy, such as the embedding of work placements or common entrepreneurship modules. The place for these to be quite rightly sought and monitored is within strategic compacts, with the potential to link levels of performance funding to this if progress is not forthcoming. The suggested introduction of a rewards based approach to performance funding offers scope to incorporate the impact of such approaches, in the ultimate employability of an institution's graduates, as one of the early themes around which release of additional funding could be based. We would also like to draw attention to one particular concern flagged by a number of stakeholders – the degree to which institutions engage with indigenous SMEs. This is a particularly critical business cohort which will underpin Ireland's future growth and higher education must develop innovative solutions to engage with what is often considered to be a hard to reach group. To further incentivise this approach, consideration should be given to setting SME upskilling as a key theme within future competitive calls and within any new strategic innovation or transformation fund.

Rec 21	<i>Funding allocations to target identified national and regional skills development needs in both public and private sectors should be clearly identified within the funding model each year, including the use of competitive funding programmes, accessible by both public and private higher education providers, to facilitate the channelling of investment in these areas.</i>	<i>Design and coverage of skills development channel agreed by March 2018. Implementation from 2019 allocation with additional funding channelled towards skills development as it is made available.</i>
Rec 22	<i>There should be more focus on engagement with SMEs within HEI performance compacts, and consideration should be given to including SME upskilling as a target theme in future competitive funding programmes.</i>	<i>Implementation via introduction of new system performance framework.</i>

8.6 Performance Funding

Introduction of a rewards based approach to performance funding

We have noted the general acknowledgement of the successful establishment of a system performance framework, with institution compacts agreed with the HEA based on objectives defined by the Minister for Education and Skills, and delivery against these compacts monitored and potentially linked to funding (with the provision to withhold up to 10% of HEI funding in line with unsatisfactory performance). In addition to providing an accountability measure to assess performance against specific objectives, the process also allows a means to foster greater institutional diversity within the system, and provides an opportunity to assess and enhance the capacity of institutions to manage themselves strategically and for long term development.

Such a comprehensive new process takes time to fully bed in, but we believe that there is already evidence that it has led to more strategic focus across the system. We understand that the HEA will be further developing this process, in line with an expected new national framework of objectives to be prepared by the Minister. We note that the HEA is concerned at present that the compacts are somewhat fragmented – arising from the bottom up approach taken in the first cycle. The HEA is now considering whether it would define a certain set of core activities that should be addressed by each

institution, as a building block for compacts. This would not involve the setting of targets or goals for the institutions, but would create an expectation that institutions would be able to demonstrate that they themselves had undertaken the necessary process of target setting, within their own context and as part of a coherent strategic plan.

We note that there is also a strong desire from institutions to build on the framework to encompass a reward as well as a penalty system, to ensure that good performance is also recognised. We have some caution on this point, as we believe that good performance is the minimum expectation from any well-functioning higher education system. We also note that the HEA separately consulted the sector in 2015 on the benefits of introducing an incentive funding element to this process. Institutions at that time rejected this approach. We note that there was an important distinction in that the proposal would have involved funding the winners via reductions in funding from losers in the process, whereas the proposition now is for reward funding based on new and additional funding.

We see the value in further incentivising exceptional performance in key areas via the release of an additional funding pool (which we believe could stretch to up to 5% beyond the overall state contribution). We would note that care should be taken in the design of such a process – lest, for example, it began to divert institutional focus away from key parts of mission, to the achievement of short term and even marginal objectives. We also note that such a process would require a careful design of objective assessment to allow for the fair comparison of very different institutions. A practical means of achieving this would be to create an additional performance funding pool which is based around a small number of key themes. The Panel believe that student progression and graduate employability are ideal for this purpose, given their critical importance to the success and impact of the higher education system.

Rec 23	<i>HEA should consult on a rewards based approach to performance funding, and an associated objective means of assessing performance across the whole sector, for consideration as additional funding becomes available. Initial themes around which an additional performance funding pool could be based include student progression and graduate employability.</i>	<i>Subject to agreement and implementation as additional funding is made available.</i>
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We were also encouraged by the commitment of institutions to work collectively to deliver on overall system objectives set by the Minister for Education and Skills. One proposal that caught our interest was the idea of a ‘sectoral compact’, where the IUA or THEA, or indeed the entire system, agree to deliver a range of overall system targets in return for the release of an additional pool of funding. While this would need to be carefully discussed and fleshed out with relevant stakeholders, we believe this idea has merit given the focus it would place on institutions working together, the ability to focus on very strategic system-wide goals and that it could avoid the need for a multitude of different funding streams and programmes to address such goals. Such an approach may also be applicable in the setting of regional compacts, with targets agreed with a cluster of HEIs. The setting of sectoral or regional compacts might also be linked to the capacity building issues identified in Section 8.7 below, with for example commitment to sectoral initiatives to build management and leadership capability.

Rec 24	<i>Scope for the development of sectoral compacts between the HEA, the IUA and THEA, based on key Government objectives and targets, should be explored. This should also consider whether the delivery of these compacts can be linked to the release of additional funding, and whether there also exists potential for the agreement of regional compacts with groups of institutions.</i>	<i>To be explored by the HEA, the IUA and THEA, with Department input on the setting of objectives and targets.</i>
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Establishing gender equality as a key system goal

As outlined in the HEA National Review of Gender Equality in Irish Higher Education Institutions, published in 2016, gender inequality exists in higher education, as indeed it does in wider Irish society. Currently, only 19% of academic professors and only 28% of the highest paid professional support staff in institutions are female. The report set out a vision that “by investing in gender equality, Irish HEIs will maximise their pursuit of excellence and successfully meet the many social, economic & cultural challenges of the future”, with a range of recommendations to be pursued. It is important that implementation of the review, along with ensuring commitment to wider equality and diversity, is embedded within how institutional performance is monitored and rewarded, and we believe that the most appropriate place to address this is within the system performance framework and associated performance compacts.

In 2015 HEIs signed up to Athena SWAN (Scientific Women’s Academic Network), a national initiative supported by the HEA. By signing up to the charter, each HEI is committing to advancing women’s careers in science, technology, engineering, mathematics and medicine (STEMM). In 2015 the charter was extended to the arts, humanities, social sciences business and law as well as professional and support staff. The main research funding agencies in Ireland have already announced that they will require HEIs to have attained the Athena SWAN award by 2019 to be eligible for research grants. The Athena SWAN approach provides an important mechanism by which institutional commitment and progress can be monitored. The Minister for Higher Education also recently announced a Task Force on addressing gender equality across the system, including consideration of gender quotas, and it is important that the work of this group is taken into account as it progresses.

Rec 25	<i>The strategic dialogue process should ensure that recommendations of the National Review of Gender Equality are being fully progressed by institutions. The new system performance framework should include an indicator on gender balance and a series of sub-indicators to monitor progress in relation to the governing authority/body, academic council, executive management, academic staff at each grade; professor grades (universities only); senior professional staff; achievement and retention of Athena SWAN awards; and level of perceived gender inequality amongst staff members. The development of female leaders in higher education should be a key focus of system capacity building investment (see Recommendation 28).</i>	<i>Implemented from 2018.</i>
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Addressing issues of governance performance

We are conscious of the significant attention given to governance matters in higher education in recent years, and the introduction of a governance framework for the higher education system by the HEA to provide clarity and oversight on responsibilities in this regard. We also recognise that critical impediments to the agility and market responsiveness needed for a fully internationally competitive Irish HE system arise from constraints over IR and capital borrowing, and that these constraints are unlikely to be eased without full confidence over the governance of, and accountability for, Exchequer funding. This was recognised by the HEIs themselves, and we propose an enhanced focus on governance within the system performance framework, coupled with a penalty based system for red line governance compliance issues to provide further assurance in this area. Within the system performance framework, it is suggested that assessment of governance performance is monitored across KPIs including:

- **Procurement:** Level of non-compliant procurement expenditure
- **Accounting Timeliness:** Submission of draft annual account within stipulated C&AG guidelines
- **Responsiveness:** Submission of annual governance statements, staff statistics, SRS returns within HEA stipulated deadlines
- **Pay Policy Compliance:** Levels of unsanctioned payments
- **Staffing:** Staff numbers within target set within Delegated Sanction Agreement and in line with any gender equality targets
- **Overall Governance Performance:** Areas of governance compliance marked yellow (issue but being addressed) or red (issue not being sufficiently addressed)

In addition, a penalty based system should also be introduced for clear and unambiguous breaches of governance, and we recommend that this should include unsanctioned payments to staff; failure to provide timely and accurate submission of required information or data; false financial, statistical or governance reporting; and wilful breaches of the relevant codes of governance.

Rec 26	<i>Accountability for good governance should be reinforced within the system performance framework and as an essential minimum requirement of institutional compacts agreed with the HEA, with a series of governance KPIs monitored on an ongoing basis.</i>	<i>Implementation via introduction of new system performance framework.</i>
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Rec 27	<i>A penalty system for serious breaches of governance compliance, such as unsanctioned payments to staff; failure to provide timely and accurate submission of required information or data; false financial, statistical or governance reporting; and wilful breaches of the relevant codes of governance should be introduced.</i>	<i>To be agreed by end 2017 with IUA, THEA, the Department of Education and Skills and the Department of Public Expenditure and Reform.</i>
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8.7 Building Capacity and Facilitating Transformation

Capacity building in key areas to reinforce a successful and sustainable system

We have noted the importance of investing in capacity building to support the digital transformation of learning across institutions. This is an area of ‘top-slicing’ which is critical in supporting the continued evolution of all higher education systems and will add value across all institutions if appropriately targeted. The review also identified several other areas where strategic investment is required in order to ensure a robust and effective future system. This includes management and leadership capability, with the Leadership Foundation in the UK providing a model from which we might learn. Effective management and leadership will be critical to next stage of the development of the system, and the HEA should work with the IUA, THEA and the institutions themselves to agree an appropriate framework and approach to enhance capacity. Institutional fundraising should be considered as part of this work, as a core attribute that will be essential for all institutions and their leaders in ensuring future sustainability. It should also involve investment in the continuing improvement of management information systems, including the introduction of tools to collect more timely and robust data from institutions. The National Forum for Teaching and Learning already serves as an example of a capacity building intervention to build innovation in this area.

<i>Rec 28</i>	<i>Targeted investments in capacity building should be made to respond to evolving needs. The first priority should be building board, management and leadership capacity across the system, with other issues worthy of short-term focus including shared management information and performance data systems; digital transformation of learning; and enhancing teaching and learning approaches.</i>	<i>Implemented as additional targeted funding becomes available.</i>
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Scope to fund innovative and transformative ideas

The rapid pace of change in the higher education system, with further structural reform and further rapid student growth expected, will require new ways of thinking in order to respond effectively. There must be some scope within the funding model for institutions to come forward with innovative and transformative proposals with a potential application and impact across the system that cannot be funded within the current parameters of the model. These ideas could range from new methods of delivering learning to shared approaches to generate efficiencies. While there are mixed views about the effectiveness of the Strategic Innovation Fund which was in place for such a purpose in the past, we believe that such a mechanism is essential in supporting a more flexible and adaptive system. By their nature, innovative and transformative proposals will not all realise the planned impact, but the encouragement of innovative thinking and the potential to mainstream initiatives that do prove successful will more than justify a relatively modest investment from the overall grant allocation.

<i>Rec 29</i>	<i>A competitive fund of €10m to €15m should be established to support innovative or transformative proposals from institutions or groups of institutions with potential application and impact across the higher education system.</i>	<i>Implemented as funding becomes available.</i>
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8.8 Implementing the Model

Clearly communicating the future structure of the model

We noted earlier in our conclusions that the overall structure of the model must be clear. A key early objective in the implementation process must be development of a range of resources to facilitate a simple understanding of where funding is channelled and on what basis. A functioning online tool should be an immediate priority, supported by animation showing how funding reaches learning and teaching, research, innovation, engagement and other designated objectives. In putting this together, there should be new agreed terminology for how funding allocations to institutions are articulated, moving away from references to 'core' or 'block grant' funding which we believe cloud the strong performance elements built into the allocation method. Indeed, there is a case for the entire allocation to be termed the HEI Performance Grant to reflect the fact that it is all driven by such elements (and not just a small proportion formally linked to the compact process).

<i>Rec 30</i>	<i>An online tool and supporting resources should be developed to clearly communicate how funding is allocated, the outcomes it generates and the ways in which it supports the range of objectives set for higher education.</i>	<i>Implemented upon launch of the new model in late 2017</i>
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An implementation group to oversee delivery of these recommendations

Throughout this section, we have set out a significant number of recommendations, many of which will involve further work or be dependent on additional developments or funding in order to progress. We acknowledge the need for care in implementing major change in how the system is funded and the phasing of each recommendation needs to be carefully planned in order to ensure that there are no sudden shocks (e.g. unanticipated declines in funding) for individual institutions or imbalances caused within the system (e.g. by channelling too great a proportion of limited funding into a particular allocation). We are therefore very conscious that for the future model to have the desired long-term impact, the HEA must work closely with the institutions and its Government partners to ensure a smooth transition to the new approach. It is important that an implementation group is established to bring these stakeholders together, iron out any outstanding issues, and agree the approach to roll-out of each recommendation in line with the proposed timeline. This implementation group should report to the HEA on a quarterly basis.

<i>Rec 31</i>	<i>An implementation group should be established to oversee the delivery of these recommendations and ensure that further work to clarify future approaches and introduce them within the model is progressed within the envisaged timelines. The group should involve the HEA, IUA, THEA and the DES.</i>	<i>Implemented upon launch of the new model in late 2017</i>
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Maintaining a moderating mechanism to protect ongoing sustainability

Finally, we acknowledge that we are proposing significant change in the way in which the future higher education system is funded. While we believe that we are setting out a course of action which is appropriate, desirable and fair, addressing unintended consequences and ensuring responsiveness to

evolving economic and societal needs, we also acknowledge that institutions should not suffer for behaviour and performance which was encouraged and incentivised by the previous system. It is therefore critical that all institutions are given time to adjust and plan their future operations without being subject to any sudden and unexpected declines in state funding. While the presence of a moderator within the model attracted mixed views, with criticism from rapidly growing institutions, it is needed as a key component of the future model, at least for an interim period.

Rec 32	<i>A moderator of +/- 2% of the overall system rate of funding change should be applied in setting every institutional allocation. The appropriateness and level of this moderator should be reviewed on an ongoing basis by the HEA.</i>	<i>Implemented from 2018 and monitored by the HEA</i>
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In addition to this role in setting the moderator, it is also important that the HEA itself continues to review the model on an ongoing basis, making adjustments to reflect the evolving environment as it has in the past, and ensuring that the system remains agile and responsive as it further develops. We have identified a series of interdependencies that will all have a significant impact on the higher education system and how it is funded, and will demand a timely and tailored response if and when they arise. The guiding principles that we set out in Chapter 5 of this report should remain a central reference point to inform this decision-making process.

Rec 33	<i>The HEA should continue to evolve the funding model in response to changes in the wider environment, the national policy agenda and the development of the higher education system.</i>	<i>Monitored on an ongoing basis with appropriate modifications applied as part of the annual grant allocation process</i>
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Appendix 1: Glossary

ARC	Australian Research Council
CAO	Central Applications Office
DES	Department of Education and Skills
DIT	Dublin Institute of Technology
DJEI	Department of Jobs, Enterprise and Innovation
ECF	Employment Control Framework
ERA	Excellence in Research for Australia
FEC	Full Economic Cost
GERD	Gross Expenditure on Research and Development
HEA	Higher Education Authority
HEAR	Higher Education Access Route
HEFCW	Higher Education Funding Council for Wales
HEI	Higher Education Institution
HERD	Higher Education Research and Development
HESA	Higher Education Statistics Agency
HETAC	Higher Education and Training Awards Council
ICT	Information Communication Technology
IOT	Institute of Technology
IRC	Irish Research Council
IRCHSS	Irish Research Council for Humanities and Social Sciences
IRCSET	Irish Research Council for Science, Engineering and Technology
ISSE	Irish Survey of Student Engagement
IUA	Irish Universities Association
LERU	League of European Research Universities
NCGP	National Competitive Grants Programme
NFQ	National Framework of Qualifications
NOW	Netherlands Organisation for Scientific Research
NUI	National University of Ireland
OECD	Organisation for Economic Co-operation and Development
QQI	Quality and Qualifications Ireland
RAE	Research Assessment Exercise
RDI	Research Development and Innovation
REF	Research Excellence Framework
RGAM	Recurrent Grant Allocation
RTC	Regional Technical Colleges
SFC	Scottish Funding Council
SLA	Service Level Agreement
SRE	Sustainable Research Excellence Universities
STEM	Science, Technology, Engineering and Mathematics
SUSI	Student Universal Support Ireland
TCD	Trinity College Dublin
THE	Times Higher Education
THEA	Technological Higher Education Authority Ireland
TU	Technological University
UCD	University College Dublin
WFTE	Weighted Full-Time Equivalent
WTE	Whole Time Equivalent

Appendix 2: Expert Panel Biographies

Short biographies for each of the Expert Panel members are provided below.

Ms Brid Horan, Chair

Brid Horan is currently Chair of Trustees of Bank of Ireland Staff Pension Fund and of the Board of ISAX (Ireland Smart Ageing Exchange), a member of DCU Governing Authority, TLAC (Top Level Appointments Committee) and IMI Council, a Director of Chamber Choir Ireland and of Dublin Theatre Festival.

In June 2014, Brid was appointed by the Minister for Education to the Expert Group to examine funding options for Higher Education which reported in early 2016.

Former Deputy Chief Executive of ESB, she has previously served as an Independent Non-executive Director of FBD Holdings plc, a member of Board of IDA and a Commissioner of National Pensions Reserve Fund. Prior to joining ESB in 1997, she headed KPMG Pension & Actuarial Consulting.

Brid is a Chartered Director and Fellow Institute of Directors, an Actuary and Fellow Irish Institute of Pension Management.

Professor Philip Gummett CBE

Professor Philip Gummett's first degree was in Chemistry. He moved into the newly emerging field of science and technology policy studies at Manchester University, UK, heading both the Department of Science and Technology Policy and later the Department of Government, and becoming Professor of Government and Technology Policy. He taught a range of undergraduate programmes and developed graduate and research specialisms in UK science policy and in relations between defence and civil technologies, on which he led a 12 nation, mainly European, research group, and published widely. His best known academic work is the monograph *Scientists in Whitehall* (Manchester University Press, 1980).

Professor Gummett was appointed Pro-Vice Chancellor at Manchester, before moving to the Higher Education Funding Council for Wales, of which he was chief executive from 2003 until retiring in 2012. A key agenda item during that period was restructuring the Welsh university system, where a series of high-profile mergers of higher education institutions resulted in reducing the initial thirteen institutions to eight. He is a trustee of JISC, the body that provides digital infrastructure, resources and advice across all UK universities and colleges, and is a consultant on higher education. Professor Gummett also has knowledge of the higher education landscape and policy in Ireland and he was Expert Secretary for a 2014 report to the Higher Education Authority on applications by consortia of Institutes of Technology for Technological University status.

Professor Sir Ian Diamond DL, FBA, FRSE, FAcSS

Sir Ian is Principal and Vice-Chancellor of the University of Aberdeen, an appointment he has held since 1 April 2010. He was previously Chief Executive of the Economic and Social Research Council. He was also Chair of the Research Councils UK Executive Group (2004-2009) the umbrella body that represents all seven UK Research Councils. Before joining the ESRC, Sir Ian was Deputy Vice-Chancellor at the University of Southampton, where he had been for most of his career.

In his research career, Sir Ian's work crossed many disciplinary boundaries, most notably working in the areas of population and health, both in the developed and less developed world. His research has involved collaboration with many government departments including the Office for National Statistics, the Department for International Development and the Department for Work and Pensions.

Sir Ian has served as Chair of British Universities and Colleges Sport, Chair of the Universities UK Research Policy Network Committee, Chair of the Universities UK Group on Efficiency and Chair of the Higher Education Review for Wales. In this latter role he set out a clear pathway to reform of the Welsh higher education funding model which is currently being implemented by the Welsh Government. Sir Ian was elected to the UK Academy of Social Sciences in 1999, is a Fellow of the British Academy (2005), a Fellow of the Royal Society of Edinburgh (2009) and holds honorary degrees from the universities of Cardiff and Glasgow.

Ms Mary Kerr

Mary Kerr is the former Deputy Chief Executive of the Higher Education Authority, where she worked for over 30 years overseeing the Irish higher education system and its funding. During her period of office she managed the development and implementation of the funding allocation model for higher education institutions. She was also involved in a number of international projects focusing on the review and development of funding models. Her roles within the HEA brought her into regular contact with all of the universities, institutes of technology and specialist colleges and she has an in-depth knowledge of their missions, operations and impacts.

Appendix 3: Advisory Group

Dr Graham Love, Chair of the Advisory Group, Higher Education Authority (AG Meetings 3 and 4)

Ms Anne Looney, Former Chair of the Advisory Group, Higher Education Authority (AG Meetings 1 and 2)

Ms Noreen Bevens; Department of Education and Skills (DES)

Mr Joe Moore and Fionna Hallinan; Department of Jobs Enterprise and Innovation (DJEI) (Previously Ms Jennifer Billings AG Meeting 1 and 2)

Ms Marie Mulvihill; Department of Public Expenditure and Reform (DPER) (Previously Mr John Burke AG Meeting 1)

Mr Garrett Murray; Enterprise Ireland (EI)

Ms Claire McGee; Ibec

Mr Peter Brown; Irish Research Council (IRC) (Previously Dr Eucharua Meehan AG Meeting 1 and 2)

Mr Michael Casey; Irish Universities Association (IUA)

Mr John Field; University of Limerick

Ms Karena Maguire; Qualifications and Quality Ireland (QQI)

Dr Peter Clifford; Science Foundation Ireland (SFI)

Mr Conor Dunne; SOLAS

Dr Joseph Ryan; Technological Higher Education Association (THEA)

Ms Annie Hoey; The Union of Students in Ireland (USI)

Mr Thomas Stone; President, IT Tallaght

Professor Bahram Bekhradnia; Higher Education Authority

Ms Martha Brandes; Access Made Accessible, Disability Advisors Working Network, Mature Students Ireland Officers Network

Mr Raymond Bowe, Industrial Development Authority (IDA)

Appendix 4: Organisation Submissions

1. Access Made Accessible, Disability Advisors Working Network, Mature Students Ireland (Joint Network Response)
2. AIB Centre for Finance Business Research at Waterford Institute of Technology. (Own views not those of WIT)
3. Athlone Institute of Technology
4. Cork Institute of Technology
5. Department of Public Expenditure and Reform
6. Department of Jobs, Enterprise and Innovation
7. Dublin City University
8. Dublin Institute of Technology
9. Dundalk Institute of Technology
10. Enterprise Ireland
11. Galway-Mayo Institute of Technology
12. Health Service Executive
13. Higher Education Colleges Association
14. Ibec
15. Institute of Art, Design and Technology
16. Institute of Technology, Blanchardstown
17. Institute of Technology, Carlow
18. Institute of Technology, Tralee
19. Institute of Technology, Sligo
20. Institute of Technology, Sligo (Research)
21. Irish Research Council
22. Irish Universities Association
23. Letterkenny Institute of Technology
24. Mary Immaculate College
25. Maynooth University
26. National College of Art and Design
27. National University of Ireland, Galway
28. Quality and Qualifications Ireland
29. Royal Irish Academy
30. Science Foundation Ireland
31. SOLAS
32. St. Angela's College, Sligo
33. Technological Higher Education Association
34. The Teaching Council and HEI Provides of Initial Teacher Education (Joint Submission)
35. Third Level Computing Forum
36. Trinity College Dublin
37. UCD Innovation Academy
38. University College Cork
39. University College Dublin
40. University of Limerick
41. Waterford Institute of Technology

Appendix 5: Stakeholder Meetings

1. Access Made Accessible, Disability Advisors Working Network, Mature Students Ireland Officers Network
2. American Chamber of Commerce Ireland
3. Chambers Ireland
4. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs
5. Department of Education and Skills
6. Department of Health
7. Department of Jobs Enterprise and Innovation
8. Department of Public Expenditure and Reform
9. Enterprise Ireland
10. Ibec
11. IMPACT
12. Industrial Development Authority (IDA)
13. Irish Universities Association Presidents
14. Irish Universities Association Chief Financial Officers/Bursars
15. Quality and Qualifications Ireland
16. Science Foundation Ireland
17. Teachers' Union of Ireland
18. Technological Higher Education Association Presidents
19. Technological Higher Education Association Secretary / Financial Controllers
20. The Higher Education Colleges Association (HECA)
21. Union of Students in Ireland (USI)