HEA | AN tÚDARÁS um ARD-OIDEACHAS
HIGHER EDUCATION AUTHORITY

Review of the Allocation Model for Funding Higher Education Institutions

Working Paper 1: The Higher Education Sector in Ireland

Contents

1) Introduction

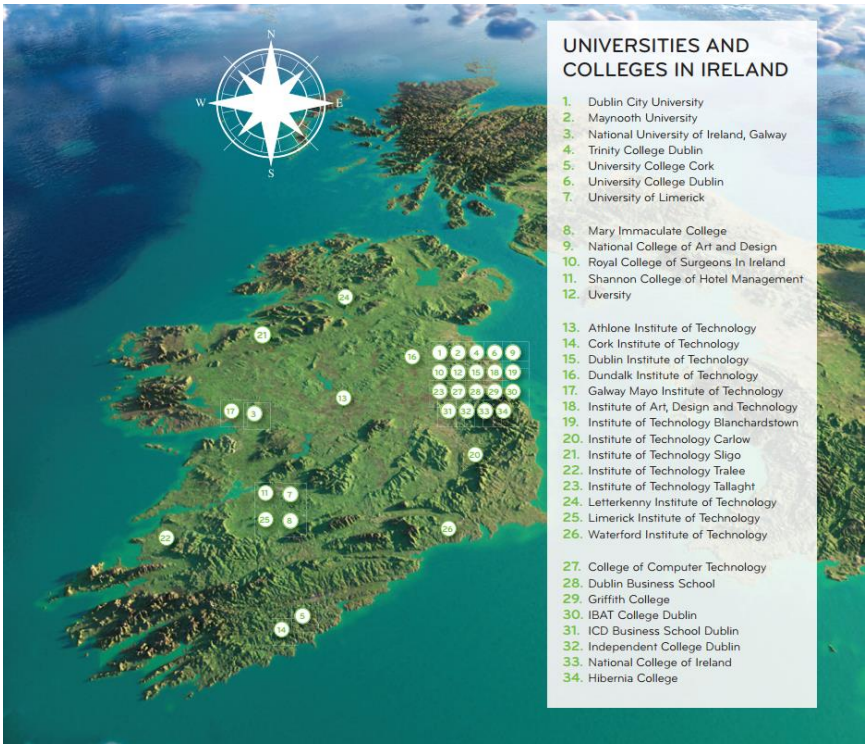
This paper provides a brief overview of the higher education sector in Ireland. It highlights the nature of the institutions which comprise the sector, the key stakeholders involved in its oversight and sets out key characteristics in terms of the student base, staffing, the research system, internationalisation and overall funding.

2) Institutions

While there are more than 40 higher education institutions in Ireland, the focus of the funding system is on 24 institutions that receive a core funding contribution from the Higher Education Authority (HEA) – of which 7 are universities, 14 are institutes of technology and 3 are 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, it is also important to note that 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 1 along with some of the main private colleges. Regional access and economic development have been major drivers of higher educational policy and hence provision has been established in all corners of the country. Indeed, a particular characteristic of Irish higher education institutions (HEIs) is the largely regional catchment area on which they draw their student base.

Figure 1: Higher Education Institutions in Ireland[1]



[1] Education in Ireland: *Why Study in Ireland?* 2017 (p. 5).

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 three specialist teacher training colleges merging with a University, and further such process planned next year. 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.

Prior to the 1970s, higher education was dominated by 5 universities, whose lineage stretched back to at least the 19th century. The government then established 2 national institutes of higher education, in Limerick (1972) and Dublin (1975), to provide technologically focused programmes. After some controversy, both institutions were permitted to take on university status, formalised within new university legislation in 1989. While these two institutions arguably maintain a more technologically focused and work-based learning approach to provision, there are no particular incentives or controls which focus their offerings in any different way from other 5 universities.

The origins of the institutes of technology were in the 1970s as a Government response to an identified need to produce technically qualified people to fuel industrial development and to support regional development. Regional Technical Colleges (RTC) were established to educate "for trade and industry over a broad spectrum of occupations ranging from craft to professional level, notably in engineering and science, but also in commercial, linguistic and other specialities".[2] Under the RTC and Dublin Institute of Technology (DIT) Acts, 1992, their functions were further identified as providing vocational and technical education and training for the economic, technological, scientific, commercial, industrial, social and cultural development of the State with particular reference to the region served by the Colleges, as well as engaging and exploiting research, development and consultancy work. By 2000, all RTCs had been re-named Institutes of Technology (IoT) in recognition of their university-level teaching and research.

3) Oversight

The HEA leads the strategic development of the Irish higher education and research system 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 supports the achievement of national objectives.

The HEA has a statutory responsibility, at central government level, for the effective governance and regulation of third-level institutions and the higher education system. In exercising its mandate, the HEA works to ensure that:

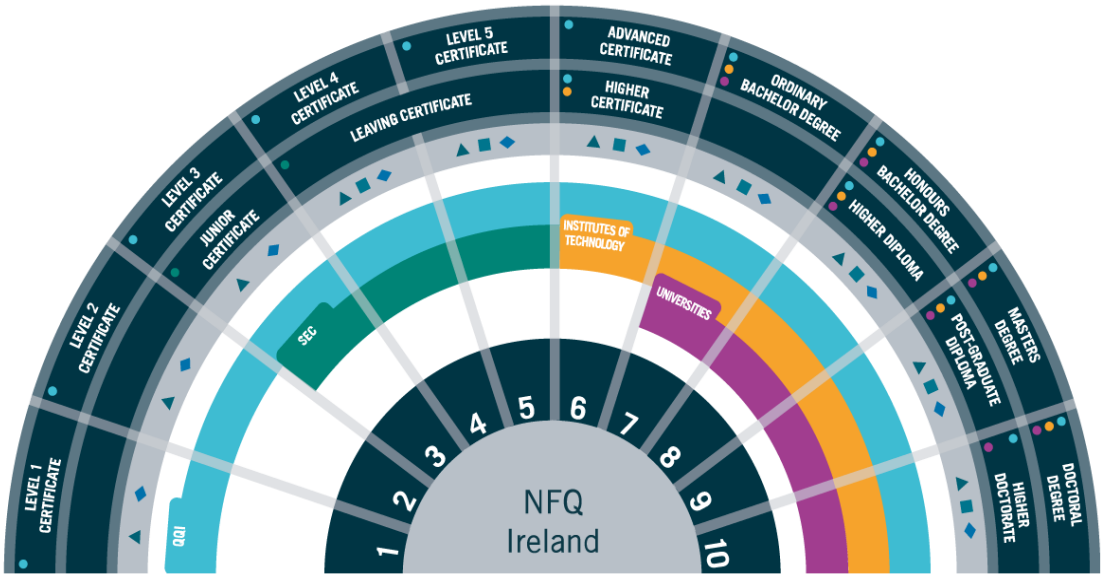
- It has due regard to institutional autonomy and academic freedom.
- Institutional strategies are aligned with national strategic objectives.
- Agreed objectives, based on those set out within a national framework defined by the Minister for Education and Skills, and detailed in compacts with institutions, are delivered through effective performance management at institutional and system-levels.

[2] Steering Committee on Technical Education: *Report to the Minister for Education on Regional Technical Colleges*, April 1967 (p. 11).

The HEA has been responsible for funding the universities since its inception and the IoTs since 2007. Previously IoTs were funded directly by the then Department of Education and Science. The now Department of Education and Skills still maintains direct funding links with a limited number of higher education institutions, although there is ongoing work to cease these legacy arrangements and allow the HEA to take full responsibility for funding the HE sector.

Quality and Qualifications Ireland (QQI) is the public-sector body responsible for maintaining quality and assurance and developing and promoting the Irish National Framework of Qualifications (NFQ). The Irish NFQ was established in 2003 and is set out in Figure 2. 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.

Figure 2: National Framework of Qualifications[3]



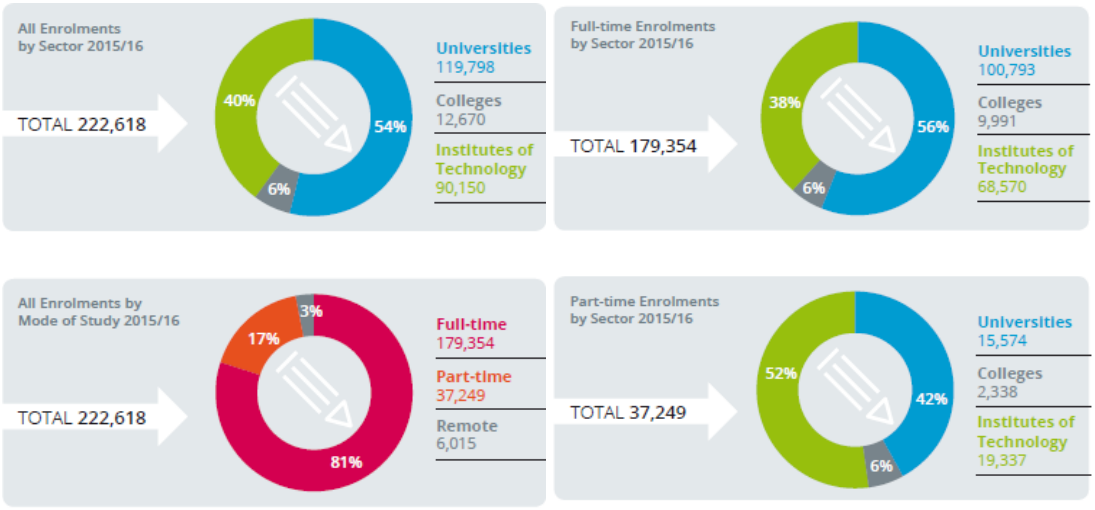
There are other organisations involved in monitoring the activities of the sector with regard to research, innovation and enterprise. Enterprise Ireland funds technology transfer, business incubation and entrepreneur development programmes within the HEIs and tracks performance accordingly. Science Foundation Ireland, funded by the Department of Jobs, Enterprise and Innovation, funds research centres and researchers in Science, Technology, Engineering and Mathematics (STEM) related fields. The research system in higher education is further discussed in Section 6.

4) Students

In 2015/16, there were 222,618 student enrolments in the public higher education institutions in Ireland. The split of the student base across universities and IoTs, and across full-time and part-time provision, is set out in Figure 3 below.

[3] See http://www.qqi.ie/Articles/Pages/National-Framework-of-Qualifications-(NFQ).aspx

Figure 3: Student Enrolments across the Public Higher Education System



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%.[4] With a target of 60% tertiary attainment among the 30–34 age group by 2020, Ireland has set itself the second highest EU2020 goal within the European Union, surpassing the headline target of 40%. Ireland has been moving steadily towards this target from an initial 27.5% in 2000 to 52.3% in 2015.[5]

Demographic growth has and will continue to stimulate significant increases in student demand. The number of students in publicly funded higher education institutions has increased by approximately 2% per annum since 1960. In 1965, there were just 25,000 students in higher education. By 1976 there were 31,000. Today, as noted above, the Irish population and, in particular, the number of young people is increasing and, in order to maintain participation rates, the system must grow by around 25% to 2030. The Department of Education and Skills has considered three scenarios when projecting the estimated increase in demand for full time third level education which gives a result of between 207,544 and 227,244 expected enrolments by 2029.[6]

Part-time and remote learning in higher education has not grown at the same rate as full-time undergraduate provision. Examining the composition of enrolments in more detail, 81% are full-time, 17% part-time and 3% remote. Of the full-time enrolments, 87% are at undergraduate level and 13% are postgraduates. However, the part-time enrolment increases since 2000 remain lower than full-time, despite the prioritisation of flexible learning and workforce upskilling within the National Skills Strategy. Postgraduate research numbers have begun to increase again after a period of decline which coincided with the Irish economic recession, with 8,368 pursuing PhDs and 1,405 undertaking Level 9 Masters by Research programmes (a relatively unique aspect of Irish provision which involves two year focused periods of research study) in 2015/16.

An important consideration in relation to participation is access. National policy on higher education access is underpinned by the principle that everyone should have the opportunity to participate in post-secondary education and that the population of new entrants to higher education should be broadly representative of the general population (socio-economic mix, disability status, gender, etc.).

[4] OECD: *Education at a glance 2015: OECD indicators*, 2015.

[5] HEA: *Higher Education System Performance 2014–2016*, 2016.

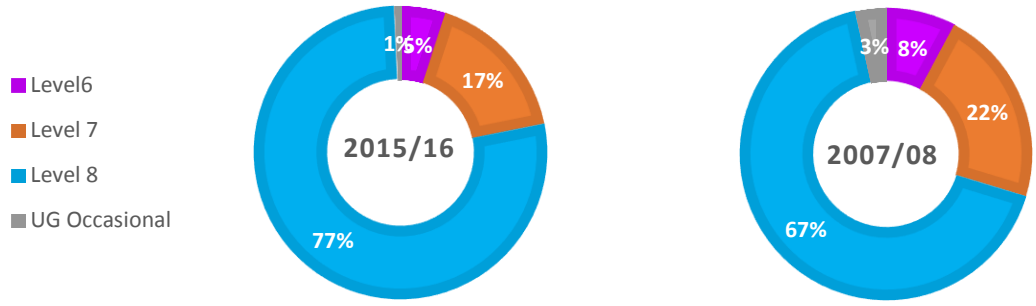
[6] DES: *Projections of Demand for Full Time Third Level Education 2015-2029*, November 2015.

All groups in Irish society have experienced increased levels both of participation in higher education and of educational attainment – including students with a disability, students experiencing social disadvantage (as measured by their socio-economic group classification) and mature students. Individual HEI access programmes and initiatives are in place, such as HEAR (targeting socio-economic disadvantage) and DARE (targeting school leavers with a disability), which offer places to students on reduced CAO points.

Table 1: Participation Rates of Key Target Groups (2014)[7]

Target Group	% Participation
Non-manual worker group (new entrants aged 18–20) as a percentage of the population	23%
Semi/unskilled manual and agricultural worker group (18-20 year old new entrants) as a percentage of the population	26%
Mature students (full time) as a percentage of new entrants	13%
Mature students (full and part-time) as a percentage of new entrants	19%
Students with a disability as a percentage of new entrants	6%
Flexible and part-time students as a percentage of all enrolments (undergraduate and postgraduate)	19%
Entrants admitted on the basis of a further education award as a percentage of new entrants	6.6%
Irish Travellers as a percentage of new entrants	0.1%
Estimated national participation rate (new entrants aged 18–20)	52%

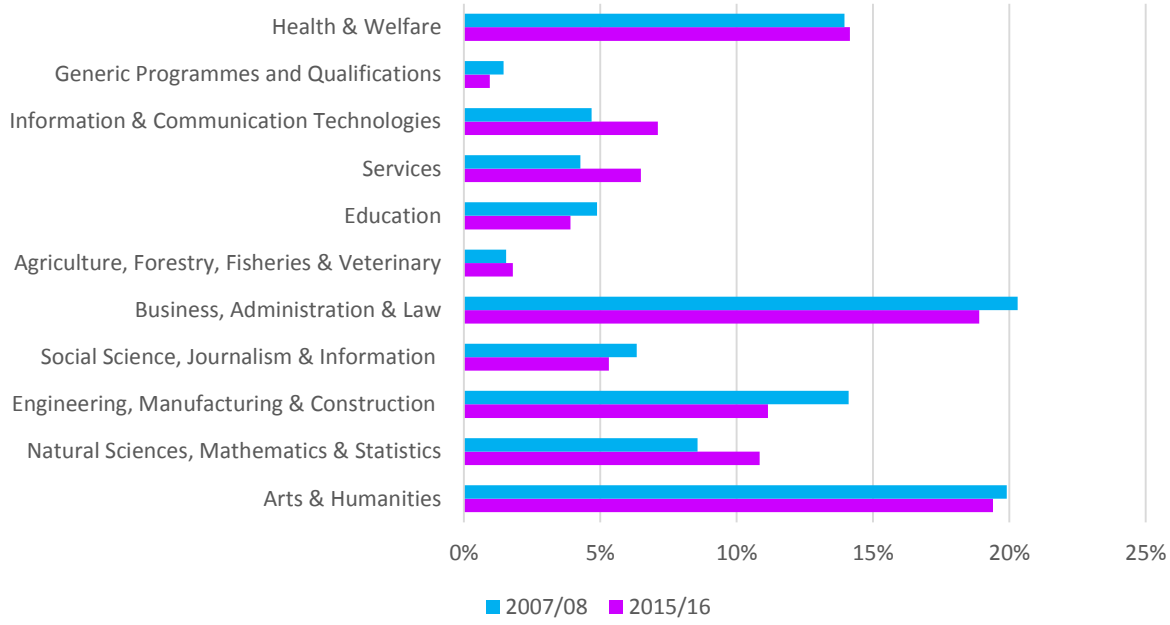
Figure 4: Full-Time Undergraduate New Entrants by Level



There has been an increase in the number of new entrants into full-time undergraduate courses taking level 8 qualifications as opposed to Level 6 or 7 courses. Also, there has been some change in the fields of study chosen by full-time undergraduates between 2007/08 and 2015/16. Enrolments in areas such as information and communication technologies and natural sciences, mathematics & statistics are growing while engineering, manufacturing and construction are declining.

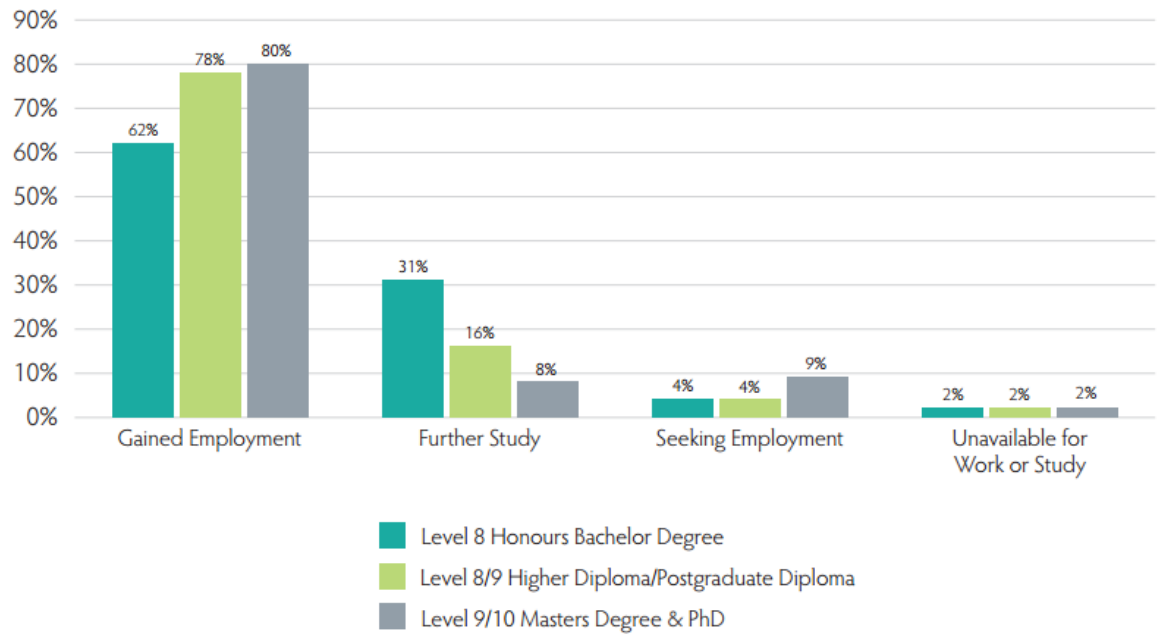
[7] HEA: *National Plan for Equity of Access to Higher Education 2015-2019*, December 2015 (p. 42).

Figure 5: Full-time Undergraduate New Entrants by Field of Study[8]



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. The figure below illustrates the differences in employment prospects and further study rates for all levels of qualification.

Figure 6: Overview of First Destination of Graduates by Level of Qualification[9]



[8] HEA: *Key Facts & Figures*, 2007/08 & 2015/16.

[9] HEA: *What Do Graduates Do? The Class of 2015*, February 2017 (p. 30).

5) Staff

There were 17,699 core academic and non-academic staff in Irish public higher education institutions in 2015. This is 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% by 2015. To meet ECF targets we have seen a growing tendency in some institutions to deploy part-time and casual staff which are categorised as 'non-core' to meet increased demand. The academic/non-academic split between universities and IoTs is notably different: 47% of core staff in universities are academic, as opposed to 61% in IoTs, and 39% of staff in IoTs are non-academic as opposed to 53% of staff in universities.[10]

Pay costs account for the majority of 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 of pensions and national labour agreements.

The pressure placed on the sector from decreased staffing at a time of significantly increased provision demand is clear, and there are concerns about the adverse impact on quality of under-staffing and wider under-resourcing. As presented in Table 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,[11] 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 student experience. QQI also identified some of the increasing quality issues within the system in a recent report.[12]

Table 2: Staff-student ratios, 2007/8 to 2013/14

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
WTE student numbers (full-time + part-time/2)	158,057	164,180	173,723	177,329	179,105	181,308	185,760
WTE core staff numbers	19,500	19,411	18,524	18,321	17,899	17,604	17,771
WTE academic staff numbers	10,100	10,041	9,772	9,697	9,418	9,297	9,364
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

Sector wide initiatives to enhance quality in teaching and learning are led by the National Forum for the Enhancement of Teaching and Learning in Higher Education. The establishment, since 2013, of the Irish Survey of Student Engagement captures data on a range of indicators of the student experience and overall student satisfaction levels. The findings are largely positive despite the reducing staff-student ratios described above. For example, 56% of students report that they have developed effective writing skills from their experience at their higher education institution, and 75% indicate that they have developed critical and analytical thinking skills.[13]

[10] HEA: *Key facts & figures 2015/16*.

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

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

[13] ISSE: *The Irish Survey of Student Engagement, Results from 2016* (p. 47).

6) The Research System

Ireland's research system has been transformed over the last 20 years and it is now respected internationally in terms of talent and impact of innovation. For example, Ireland has risen to 16th place on the international Scientific Excellence Index, which measures citations of scientific papers.[14] It has been stimulated by a significant government investment programme (aided by a substantial philanthropic investment) via the Programme for Research in Third Level Institutions where €1.2bn was invested over 5 cycles in infrastructure and human capital 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 and science (IRCHSS) and on engineering and technology respectively (IRCSET). Since that time a number of 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 within the sector.

Following these developments, the current system of funding research and innovation across the higher education in Ireland can be summarised as follows:

- 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 €140m of HEA core funding supports research capability. It is intended that such investment allows leading researchers to be given permanent tenure, enables adequate research support infrastructure to be put in place and facilitates the undertaking of research by academics across all disciplines.
- 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 postdoctorate awards 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 12 collaborative research centres across the sector.
- 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.

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. In 2016, it is considered a strong innovator (albeit not yet an innovation leader), being placed 7th in the EU Innovation Scoreboard. There has been strong engagement by Irish institutions in European research programmes through participation in International Research Organisations and Horizon 2020. Under Horizon 2020, the higher education sector has won 62.4% (€156.7m) of the €251m secured by Ireland to November 2015. The Irish target is to reach a GERD (Gross Expenditure on R&D) of 2.5% of GNP (or 2% of GDP) intensity of public and private investment in research by 2020. This would nonetheless remain well below world leaders in innovation, who spend 4% and above of GDP of public and private investment in research. In 2015, Irish GERD was 2.05% of GNP.[15]

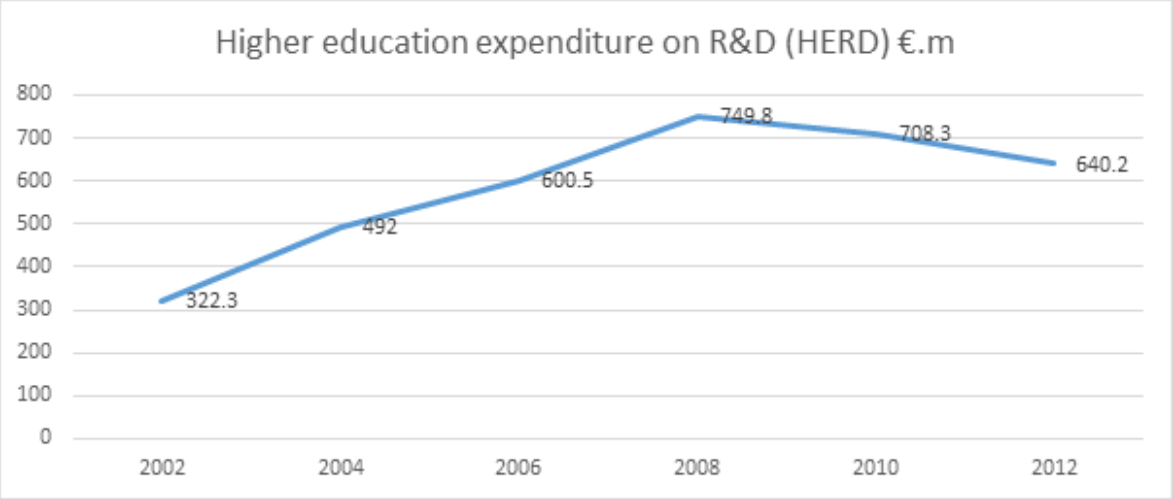
Beneath this relatively strong-performing research system, there are some concerning trends. The level of investment in higher education research and development (HERD) shows a decline since 2008, as highlighted in Figure 7, reflecting the wider financial pressure on the system. The need to reinvest

[14] Irish Times: 'Climbing the International Innovation Rankings' (28 September 2016).

[15] DJEI: *Enterprise 2025: Ireland's National Enterprise Policy 2015-2025*, 2015.

and reinvigorate the research infrastructure in place in institutions is acknowledged, and a Cycle 6 of PRTLI is planned, although its exact format is still being discussed by the relevant Departments. This is part of a wider issue with the quality and need for investment in HE capital stock, which will be further considered in the next section.

Figure 7: Summary of higher education expenditure on R&D (HERD), 2002-2012, current prices



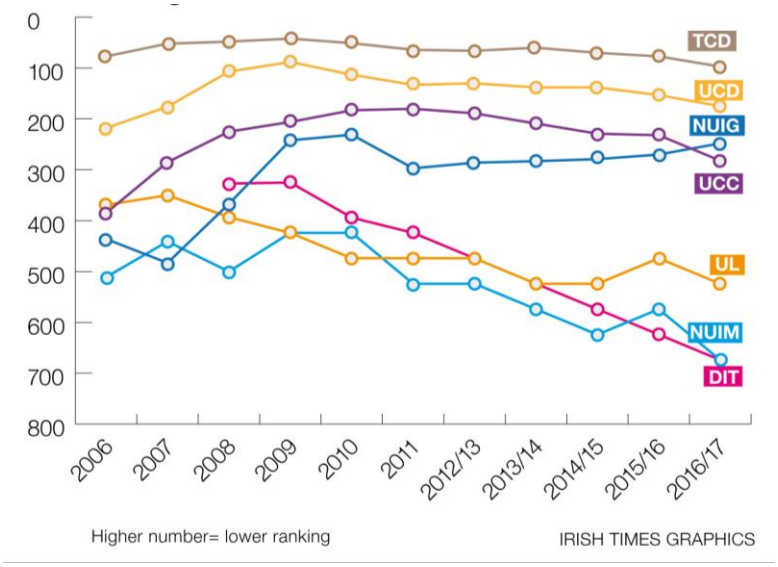
7) Internationalisation and Global Competitiveness

There are differing perspectives on the value and importance of university rankings, particularly in a relatively small higher education system like Ireland where there are other clearly defined policy goals that drive funding and performance and where regional access is a key aim. There is also concern that rankings overly focus on research criteria, with initiatives such as uMultirank attempting to take a more holistic view to comparing performance. Nevertheless, rankings are important for international reputation and an institution's ability to recruit international students, develop strategic research partnerships and diversify its funding base and Ireland's performance is worthy of reflection.

Between 2000-2010, helped by the progress in research and increasing levels of public investment in HE throughout much of that period, the rankings of the universities improved. By 2010, both TCD and UCD were ranked by Times Higher Education (THE) within the top 100 institutions in the world. However, since 2010, as the impact of the fiscal crisis and reduced state investment became apparent, coupled with an increasingly competitive global landscape, rankings have gradually declined and both of these institutions dropped out the top 100 THE list, while there is no other Irish university in the top 200.

All Irish universities, with the exception of NUI Galway, were rated lower in the QS World University Rankings in 2016/17 than 2015/16. An overview of the change in the rankings of Irish institutions in the QS World University Rankings is set out in Figure 8 below.

Figure 8: Changes in Irish HEI Rankings 2006 to 2016[16]



TCD has been notable in its position as Ireland's leading ranked university and recently announced that it had been accepted into the League of European Research Universities (LERU), an elite group of leading European research universities. On the other hand, 13 of the 14 IoTs are not ranked and have little prospect in the foreseeable future, although a number have embraced the opportunity for benchmarking particular areas of performance via the uMultirank mechanism.

The internationalisation of the Irish higher education system has been a key focus throughout the last 20 years. Institutions have developed stronger international linkages, while also attracting a greater number of students to study in Ireland. In 2014/15, over 15,000 whole-time equivalent, full-time students in Irish higher education were international: that is, approximately 9% of full-time numbers, an increase from 7% in 2012/13.[17] This figure remains below the OECD average and considerably below high performers such as Australia, the USA, the UK and New Zealand. An international target of 15% of full-time students has been set in the new *International Education Strategy for Ireland, 2016-2020*. However, there is concern that institutions should not leave themselves overexposed to the risks inherent in internationalisation and avoid over-dependence on international students as a revenue-generation strategy.

The post-Brexit environment will present challenges and opportunities for Irish higher education and research in areas such as student mobility and residency rules, international educational programmes, academic/professional mobility/recruitment and research collaboration and funding.

A wider concern around the international outlook of the higher education system is the low number of Irish students who travel abroad as part of their higher education experience (2,501). The HEA notes that the EU has planned to increase the resources allocated to the Erasmus+ programme, and that this may lead to an increase in Irish students travelling abroad as part of their studies, but there is a recognised need to stimulate greater levels of demand from Irish students for international experiences which will be key to meeting the challenges and opportunities of Ireland's innovative, open economy in the future.

[16] Irish Times: '*Irish universities continue to fall in global rankings'* (6 September 2016).

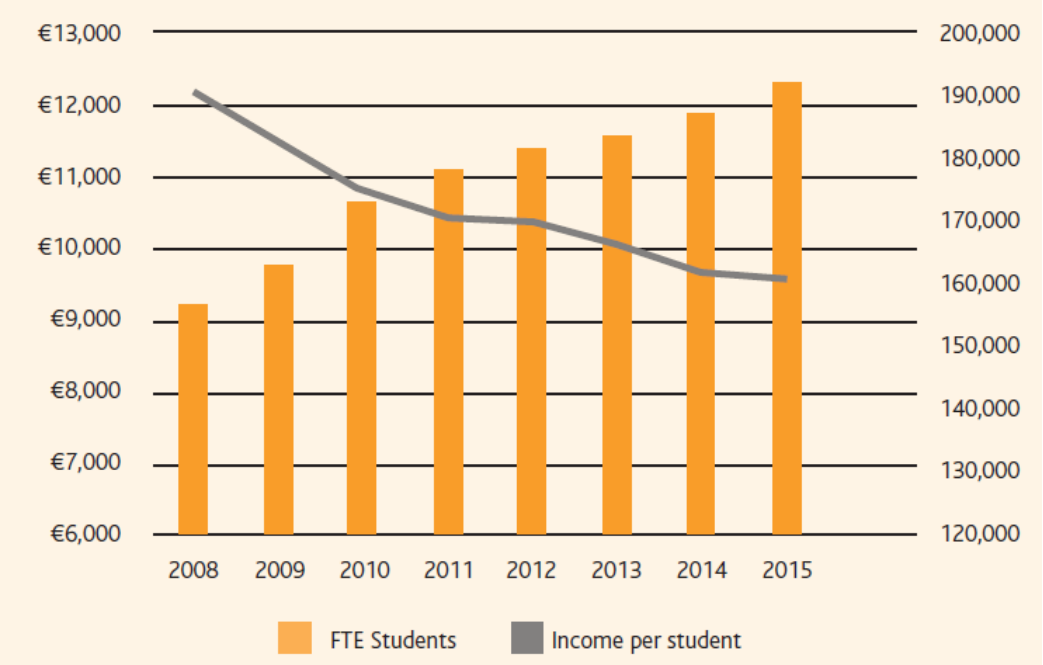
[17] HEA: *Higher Education System Performance 2014–2016*, 2016.

8) Funding

The adequacy and mechanisms of funding for higher education have been the subject of much debate and a major review was undertaken by an Expert Group on Future Funding for Higher Education, chaired by Mr Peter Cassells, to advise on options regarding the future sustainable funding of the sector. The report, published in July 2016, concluded that the current approach to funding is unsustainable, and that substantial increases in investment in higher education must be made to ensure that the sector can remain viable and provide the capacity to meet the major increase in student demand projected through to 2030. The report is currently being considered by the Oireachtas Committee on Education and Skills.

The issues which the report identifies stem 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 taken into account, overall funding per student has declined by c. 20% over eight years from 2008 to 2016, from over €12,000 to under €10,000 (see Figure 9). 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 9: 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 out of 26 institutions were in deficit in 2016, and the problems are particularly apparent among the IoTs. Student numbers in the IoTs grew by 24% between 2008 and 2015, meaning total income per student fell by 30%. A recent financial review of the IoTs revealed that 6 institutes face immediate sustainability challenges, with further 4 potentially at risk due to limited reserves and current or

projected deficit positions.[18] 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 sub-sector is in deficit and this trend is projected to continue over the next 5 years. Decline in IoT cash balances is also apparent, from €218.1m in August 2013 to €147m in August 2016, and a further fall anticipated to €116m by August 2017. The HEA has taken action to agree 3 year financial turnaround plans with the 6 most vulnerable institutions, but with limited funding available there are risks to whether these plans can be delivered.

In the university sub-sector, the latest audited accounts show an overall aggregate deficit. Given the OECD recommendation of a 3% annual surplus to maintain institutional sustainability, the deficit position across higher education is a major concern. One specialist college and 2 universities have submitted 3 year plans in line with the IoT approach due to their vulnerable status. As regards the universities, the main concern is around capital stock and maintenance, and the implications for the financial position. There is also a reducing dependence on exchequer income, with the proportion of funding sourced from the state decreasing from 73% to 64% from 2008 to 2013.

While the recurrent funding situation is a major concern, the lack of capital investment in higher education in recent years is perhaps the biggest risk to sector 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.[19] With a capital stock of €8 billion and a general acceptance that 1.5% of the value of stock needs to be invested each year in order to adequately maintain it, the recent overall investment levels, as set out in Table 3, are insufficient to meet these requirements, before considering the need for new buildings to accommodate increased student demand or deal with legacy issues around the quality of stock. These latter issues are important, with major repair or replacement required on 41% of the total space in the sector. Temporary buildings (including prefabs) and rented space account for 6% of stock. Irish students have 25% less physical space than is the norm internationally. Taking all of the capital investment requirements together, it is estimated that €360m is required annually over the next 10 years to address the situation.

Table 3: Capital Investment in Higher Education 2008-2015

	Paid 2008	Paid 2009	Paid 2010	Paid 2011	Paid 2012	Paid 2013	Paid 2014	Paid 2015
UNIVERSITY	€24.50	€76.54	€116.50	€48.00	€44.00	€41.00	€31.10	€29.58
IOTs	€51.00	€58.50	€51.00	€24.00	€8.00	€15.50	€8.00	€16.78
Grangegorman	€0.00	€0.00	€0.30	€5.00	€2.50	€12.30	€40.00	€5.91
DIAS	€0.00	€1.25	€0.30	€0.25	€0.02	€14.00	€0.10	€0.00
RIAM	€0.00	€0.50	€0.00	€0.20	€0.14	€0.04	€0.00	€0.00
CICE	€0.00	€0.23	€0.30	€0.38	€0.25	€0.20	€0.06	€1.70
Total	**€75.50**	**137.02**	**€168.40**	**€77.83**	**€54.91**	**€83.04**	**€79.26**	**€53.97**

[18] HEA: *Financial Review of the IoT Sector*, 2016.

[19] Letter from the Department of Education and Skills to the HEA, 10 November 2011.