

An Oifig Buiséid Pharlaiminteach Parliamentary Budget Office

Public Service Performance Metrics: Higher Education Access and Outcomes

This note contains a social mobility index of Irish higher education institutions developed by the Parliamentary Budget Office using Higher Education Authority and Central Statistics Office data, adopting a methodology used in the UK to develop a social mobility index of English higher education institutions. Metrics on participation and progression for students from disadvantaged and marginally below average areas, as well as earnings I year after graduation, are combined into a composite index score to measure the relative strength of each of the 22 Irish corefunded HEIs in the area of social mobility. There is a data visualisation presenting the social mobility index to accompany this note, available here. Data already collected by Public Bodies can be leveraged to provide more insightful metrics than those currently used, allowing for proper scrutiny of Public Service delivery and taxpayer funding by Parliamentarians and the public.

Key Points

- Over €2bn of taxpayer funding goes towards public higher education annually in Ireland, around €1.6bn in direct grants from the Higher Education Authority (HEA) to Higher Education Institutions (HEIs) and another €400m+ in student fee and maintenance grants from Student Universal Support Ireland (SUSI).
- Consideration of performance metrics in the sector is one way to analyse this
 funding. The Public Service Performance Report (PSPR) produced annually by
 the Department of Public Expenditure and Reform (DPER) collates metrics for all
 Voted expenditure areas. In addition, the annual Revised Estimates Volumes for
 the Public Service (the REV) includes activity and performance metrics, including
 equality budgeting indicators. The concept of performance budgeting centres
 around linking specific areas of expenditure to outputs and outcomes.
- The Parliamentary Budget Office (PBO) believes that current higher education metrics in the REV and the PSPR, which are chosen by the Department of Further and Higher Education, Research, Innovation and Science (DFHERIS), not DPER, largely measure activity, not performance. For example, student numbers are largely determined by demographics and labour market conditions and are not a measure of performance or value for taxpayers' money. There is no metric on socio-economic diversity in higher education in either the REV or the PSPR.
- The Department of Education (DoE) publish a number of useful performance metrics in their annual education indicators report, for example the transition rate of DEIS school students into higher education. However, in general there is a lack of data available at school level. Ideally outcomes by school or at least by student types and geographic areas should be published to determine the differences in outcomes for school students across the system.

- The HEA publish a wealth of data and research each year which do, to an extent, measure performance across the higher education system. Analyses which show the difference in outcomes by student type and by HEI are particularly insightful. For example, performance of HEIs in progression/completion rates, crucially when the student populations present in each HEI are accounted for. These metrics which show actual compared to expected rates are a true measure of performance. HEA graduate earnings analyses by socio-economic background, which compare otherwise like-for-like students, are another example of insightful performance measurement. More recent publications by the HEA profiling the higher education population by socio-economic background have also advanced evidence of diversity, or lack of, in certain areas of higher education. Recent CSO publications of earnings by HEI are also a welcome development. Future performance measurement developments in higher education should focus on the differences in outcomes by HEI, student background and specific course to really uncover the value of higher education for diverse participants and the performance of HEIs tasked with providing value for €2bn taxpayers' funding annually.
- 10% of Irish higher education undergraduate students come from disadvantaged areas. If the higher education student population was representative of the broader population / second-level school population, around 15-16% of students would come from disadvantaged areas. 18% are from affluent areas, a slight overrepresentation of that cohort, but this figure is as high as 34-36% in Trinity College Dublin and University College Dublin. 5-6% of students in both Trinity and UCD come from disadvantaged areas. There are also significant socio-economic diversity issues in specific fields of study. For example, only 4% of both medicine and economics undergraduate students come from disadvantaged areas.
- Adopting a methodology used by researchers from the London South Bank University in the UK which ranked English HEIs based on contribution to social mobility, this note contains a social mobility index of Irish HEIs. Metrics on participation and progression for students from disadvantaged and marginally below average areas, as well as earnings I year after graduation, are combined into a composite index score to measure the relative strength of each of the 22 Irish core-funded HEIs in the area of social mobility. St Angela's College are ranked Ist in Ireland, Dublin City University are the highest ranked university at 4th and the National College of Art and Design are ranked bottom, in 22nd place. The oft-cited world university rankings do not even factor in HEIs contribution to social mobility, a central purpose of higher education institutions. Future analyses of Irish HEIs contribution to social mobility, with potential future access to longitudinal graduate earnings data, should adopt the methodology followed by the Institute for Fiscal Studies / Sutton Trust in the UK, tracking individual disadvantaged students over time to measure distance travelled.
- In summary, this note highlights some of the insightful higher education metrics produced by the HEA and others, and shows some new ways that data can be used to measure performance. At present the REV and the PRSR do not utilise any of these true performance measures. Acknowledging the need for brevity in these documents for each specific area, more detailed sector level metrics could be collated into sector specific documents to allow for proper Parliamentary scrutiny of expenditure annually by Vote.

Glossary

CSO Central Statistics Office

DEIS Delivering Equality of Opportunity in Schools (school level designation)

DFHERIS Department of Further and Higher Education, Research, Innovation and Science

DoE Department of Education

DPER Department of Public Expenditure and Reform

FTE Full-Time Equivalent (full time + 0.5 part-time)

HEA Higher Education Authority

HEI Higher Education Institution (HEA core-funded HEIs only included in this analysis)

HEPI Higher Education Policy Institute (independent UK research think-tank)

IADT Institute of Art, Design and Technology

IFS Institute for Fiscal Studies (independent UK research think-tank)

IGEES Irish Government Economic and Evaluation Service

IoT Institute of Technology

NCAD National College of Art and Design

NFQ National Framework of Qualifications

PBO Parliamentary Budget Office

PSPR Public Service Performance Report

REV Revised Estimates Volumes for the Public Service

SUSI Student Universal Support Ireland (student grant administration)

UG Undergraduate

Introduction

Higher education funding is a complex topic and is currently being discussed at Oireachtas Committee level. Previous PBO research¹ gave an overview of HE funding issues, the focus of this note is performance metrics in the sector, specifically in the access and outcomes area, rather than funding in the sector. The PSPR published annually by DPER contains broad overview performance metrics for each expenditure area across the Public Service.² Departments, rather than DPER, determine the metrics included in the PSPR. In addition, the REV contains similar broad overview metrics for each Vote area. Given the requirement to cover all areas of expenditure, the PSPR and the REV are necessarily limited in performance metric detail.

More useful and granular data is contained in documents produced by the HEA and DoE/DFHERIS. Specifically, annual institutional profiles published by the HEA contain a large array of detailed metrics for each HEI. In addition, statistics/research on access, progression, completion and graduate outcomes regularly published by the HEA provide detailed information in each respective area. DoE publish an annual indicators report with dedicated sections on transition rates and access metrics in higher education. The higher education sector is ahead of many other expenditure areas in the Public Service in terms of performance metrics published. However, with the wealth of data now available in the sector, more insightful metrics and outcomes data could be made openly available to measure the performance of actors in the sector and the overall benefit to different types of students accessing higher education, in addition to assessing value-for-money for taxpayers' €2bn annual funding.

Higher education accounts for over €2bn, or around 2.5%, of total voted expenditure annually.3 Direct grants from the HEA to core-funded public HEIs account for circa €1.6bn of this amount (including staff pay and pension costs), SUSI fee and maintenance grants to HEIs/students in these HEIs account for over €400m and the balance is comprised of smaller payments to other HEIs and bodies including the HEA itself. Although taxpayer funding now accounts for less than 50% of total income for a minority of HEIs, most HEIs are still primarily reliant on State funding and core-funded HEIs are Public Bodies as per the CSO's register of Public Bodies.⁴ The list of 22 HEIs included in this analysis is based on the data for years 2018 – 2021.5 TU Dublin was the only Technological University in existence for most of this period and therefore other Technological Universities now in place appear in this note as the individual HEIs that previously comprised these new institutions. Traditionally, the HEA funding model assigned 60% of total funding to the traditional universities and 40% to the Institute of Technology sector (which previously included the 3 constituents of TU Dublin).6 This issue has been raised in current Oireachtas Committee discussions on the future funding of higher education, since the traditional university sector now accounts for only 56.4% of 2020/2021 FTE UG (full-time equivalent undergraduate) enrolments. In general, core funding to each HEI is largely based on the number and type of

¹ An Overview of Tertiary Education Funding in Ireland, PBO 2019.

² Public Service Performance Report 2021

³ Revised Estimates for Public Services 2022, (the 'REV').

⁴ Register of Public Sector Bodies 2021, CSO and a detailed review of university status is available here.

⁵ The Royal College of Surgeons are not included in this analysis as the RCSI is not a core-funded HEI and data availability in certain areas is limited. RCSI graduates have very high earnings relative to graduates of other HEIs on average but the RCSI also has one of the lowest proportions of disadvantaged students of all HEIs, the two factors acting as a push and pull respectively when assessing the college's contribution to social mobility.

⁶ HEA funding model.

enrolments each year. For instance, lab based enrolments attract larger funding than non-lab based enrolments.

Access funding provided through the HEA is based on the number of enrolments from underrepresented socio-economic groups⁷ and the number of enrolments with a disability, with a higher funding weight for each student in these categories. **Based on 2020 funding data for the 22 core-funded HEIs, access funding accounted for less the 2% of total HEA grant funding (circa €31m of a total €1.6bn).**8 SUSI fee/grant funding of around €400m, not included in this €1.6bn, is further direct State-support for disadvantaged students.9

Performance Information Currently Published

The socio-economic profile of students in higher education is obviously dependent on the profile of students at second-level and the transition rates of different types of students into higher education. There is a strong positive correlation between deprivation index scores and Leaving Certificate points – on average, students from affluent areas tend to outscore students from disadvantaged areas by guite some way.¹⁰ The Department of Education has started publishing transition rates from second level school type to higher education in their annual education indicators report." In 2020, 71.3% of non-DEIS second-level school students went on to higher education, compared to 46.7% of DEIS second-level school students.¹² DEIS students have a higher rate of transition to further education and training. However, more granular school level data is required to properly measure performance in the sector and to look at the probability of transitioning to higher education based on the set of likely key determinants: school, socio-economic background, gender, Leaving Certificate points, geographic location etc.¹³ Feeder-schools analysis published by private entities, including The Irish Times and The Irish Independent, with likely inconsistent data based on FOI requests, are the only open source of data on schools at this level. 14 Analysis based on progression to third-level is of course alone not a comprehensive measure of the quality of education being provided or indicative of whether or not public funding is being used effectively. Performance measurement of

⁷ Previously the HEA used father's occupation data collected via an Equal Access Survey of new undergraduates to determine the socio-economic group of each student. The four target socio-economic groups were non-manual, semi-skilled, unskilled and agricultural worker groups, as these were identified as underrepresented in higher education. The HEA has now moved to the deprivation index score method of measuring socio-economic background. Rather than using survey data, HEA administrative data captures the home address of most Irish students and assigns a deprivation index score to each student based on the Census small area each student comes from. Relative affluence or deprivation is measured on a scale of around -40 to +40, with -10 and below considered disadvantaged and +10 and above considered affluent. Deprivation index scores are a composite of ten Census measures - the age dependency rate, population change, primary education figure, third level education figure, professional classes figure, persons per room, lone parents figure, semi and unskilled classes figure, male unemployment rate and female unemployment rate. For more details on deprivation index scores, please see the background literature.

⁸ HEA Annual Report 2020.

^{9 &}lt;u>IGEES research</u> shows that around 40% of undergraduates are in receipt of SUSI support. This figure varies from over 60% in some regional IoTs to less than 25% in Trinity College Dublin and University College Dublin.

¹⁰ HEA data showing the relationship between Leaving Certificate points and socio-economic background.

¹¹ Education Indicators for Ireland 2021, Department of Education.

¹² DEIS schools receive additional funding above that of 'standard' schools, strengthening the case for publication of more granular school outcomes data.

¹³ The CSO do publish data on post-primary level outcomes but the analysis is limited in scope, lacks in-depth school and socio-economic variables and, given the data are published by the CSO as statistics, does not model outcomes.

¹⁴ This narrative is being led by newspapers and other private entities, <u>The Irish Times feeder-schools analysis</u>, <u>The Irish Independent feeder-schools analysis</u> and <u>School Days feeder-schools analysis</u>.

second-level schools, just as is the case for HEIs, should be based on their value added, or *actual* performance compared to *expected* performance, given the student mix differences in each school. Researchers from Maynooth University have conducted a value-added analysis of second-level schools using Growing Up in Ireland data and found that the ranking of schools based on value added is quite different to the ranking of schools based on simple metrics that do not account for differences in the student population. Publishing analysis showing high value-added metrics for many DEIS schools would balance raw unadjusted data made available elsewhere showing, for instance, high rates of progression from fee-paying second-levels schools to higher education.

The HEA Institutional and System Profiles 2018/19¹⁶ contain detailed metrics for each HEI, including the proportion of students that come from disadvantaged areas, the number and proportion of students with a disability, overall progression rates from 1st to 2nd year, overall proportion of graduates in employment (based on the graduate outcomes survey) and overall expenditure per student. Relevant HEA data and research is further outlined below, grouped into three broad themes: access to higher education, intermediate outcomes (progression and completion) and graduate earnings.

Higher Education Access: Heterogeneity¹⁷ in Student Population Socio-Economic Profiles

Geography and Leaving Certificate points partially account for the differences in the socio-economic profile of student populations across HEIs. Relative levels of deprivation/affluence vary greatly across the Country, with cities tending to have both areas of high affluence and high deprivation and many rural Counties being more deprived on average than urban areas. Students from affluent areas, on average, score substantially higher points in the Leaving Certificate than students from disadvantaged areas, contributing to the socio-economic profile of high entry points HEIs and courses within. However, other factors influence the socio-economic profile of HEI and course populations. HEA student/course match analysis¹⁸ shows that disadvantaged students are less likely to choose many of the highest points courses than students from affluent backgrounds, even when scoring the high points required for entry. Students from disadvantaged backgrounds tend to have a better course match (choose a course with higher points peers on average) when they travel a greater distance to attend college. Course match is important as graduate outcomes tend to be better for students that overmatch, rather than undermatch, since higher points courses, on average, have better graduate outcomes. This research suggests that there are still financial, cultural and peer norm barriers impacting course and college choices made by students from disadvantaged backgrounds, for those that do actually go on to higher education.

^{15 &}lt;u>Good Schools or Good Students? The Importance of Selectivity for School Rankings</u>, A. Doris, D. O'Neill and O. Sweetman, WP N293-19, Maynooth University, Department of Economics.

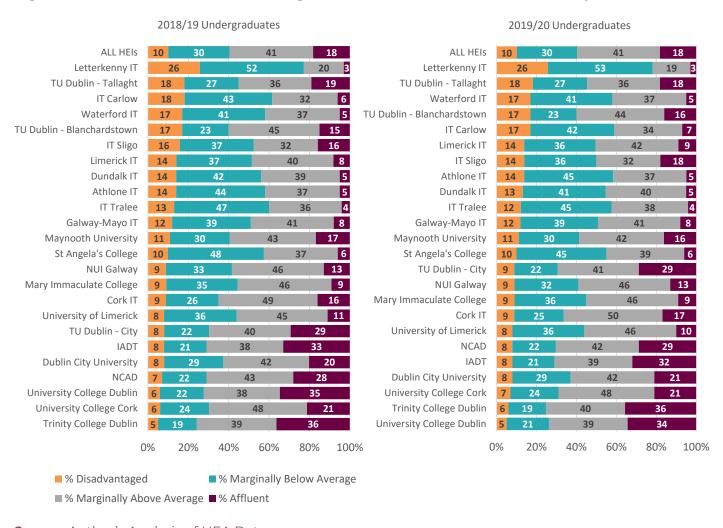
¹⁶ HEA Institutional and System Profiles 2018/19.

¹⁷ Heterogeneity in the context of this report simply refers to the differences in profiles and outcomes for different groups.

^{18 &}lt;u>Student and Course Match in Higher Education</u>, HEA 2021. Student/course match refers to the analysis of individual student Leaving Certificate points compared to the Leaving Certificate points of college classmates and the points required for entry, analysed by the socio-economic background of students. Undermatch occurs when a student's points are higher than the average of their classmates, overmatch occurs when a student's points are lower than the average of their classmates.

Bearing in mind the impact of geography and Leaving Certificate points on the socio-economic profile of higher education student populations, below is the socio-economic profile of HEIs for 2018/19 and 2019/20 academic years.¹⁹

Figure 1: Socio-Economic Profile of Higher Education Institution Student Populations



Source: Author's Analysis of HEA Data

Overall, 10% of undergraduates come from disadvantaged areas compared to 18% that come from affluent areas.²⁰ For context, given that the distribution of small area deprivation index scores is approximately normal, around 15-16% of small areas are classified as disadvantaged and 15-16% are classified as affluent, with the remaining circa 68% split relatively evenly between marginally above and marginally below average. This illustrates the underrepresentation of disadvantaged students in higher education. By HEI, Trinity College Dublin and University College Dublin have the smallest proportions of disadvantaged students, at between 5-6%, and the largest proportions of affluent students, at between 34-36%. Letterkenny IT has the most

¹⁹ For example, the mean deprivation index score for County Donegal is -6.4. In comparison, the mean deprivation index score for Dun Laoghaire-Rathdown is +10.0. Therefore, similar profiles for Letterkenny IT and UCD are not expected. In addition, average points required for entry are substantially higher for UCD than for Letterkenny IT and students from affluent areas across the Country tend to, on average, score substantially higher points in the Leaving Certificate. These dynamics do not however negate the problem of a lack of socio-economic diversity in specific HEIs and courses or reduce the need to implement policies to improve socio-economic diversity across the system.

20 HEA socio-economic profile data are available here. Note: IT Sligo PT undergraduate students are considerably more affluent on average than FT undergraduates in IT Sligo. This accounts for the unusually high proportion of affluent students in IT Sligo overall. IT Sligo provide a number of online and/or PT business courses that attract participants from more affluent areas on average than the usual IT Sligo catchment area in the north-west.

disadvantaged student population by quite some way, with 26% of undergraduates coming from disadvantaged small areas, compared to only 3% coming from affluent small areas. These metrics should be tracked over time to determine changes in the HEI socio-economic profiles and to measure HEI profiles against the HEI catchment area profile and the national profile.²¹

There are substantial differences in the socio-economic profile of fields of study, with a severe lack of socio-economic diversity evident in some key fields. Based on 2019/20 undergraduate data, only 4% of students on medicine courses are from disadvantaged areas, compared to 35% from affluent areas. Graduate medicine courses, designed to widen access opportunities to medicine, tend to have even less socio-economic diversity than standard medicine courses.²² The lack of socio-economic diversity in medicine has an obvious knock-on effect on graduate outcomes as medicine is a large field of study with very favourable outcomes for graduates, few of whom are from disadvantaged backgrounds. Economics is another field with a severe lack of socio-economic diversity. Again, based on 2019/20 undergraduate data, only 4% of students on economics courses are from disadvantaged areas, compared to 43% from affluent areas.²³

Intermediate Outcomes: Heterogeneity in Student/HEI Performance in Higher Education

Not surprisingly, Leaving Certificate points are shown to be the strongest predictor of performance in higher education.²⁴ Given students from disadvantaged backgrounds tend to enter higher education with lower points on average than others, they tend to have higher non-progression and non-completion rates.²⁵ Non-progression rates for disadvantaged students in 2018/19 were 17%, compared to only 10% for affluent students.²⁶ Once Leaving Certificate points are controlled for, i.e. comparing otherwise like-for-like students, disadvantaged students tend to perform just as well as others in higher education.²⁷ In fact, after controlling for Leaving Certificate points, **students** from DEIS schools tend to outperform students from second-level grind schools, despite having substantially lower headline rates of completion before accounting for points differences.²⁸ These findings suggest that DEIS students may have underscored relative to their ability at second-level and/or grind school students may have overscored relative to their ability in the Leaving Certificate. Regardless, findings from multiple analyses show that disadvantaged students perform well at thirdlevel when compared to otherwise similar students from more privileged socioeconomic backgrounds.

²¹ New small area deprivation index data will be available after Census 2022 data are fully collated.

²² The significant cost involved with undertaking a second bachelor level degree is likely a key barrier for disadvantaged students, even when loans were available to assist course participants. Therefore, graduate medicine courses actually lead to less socio-economic diversity in medicine overall.

²³ This is partly driven by the concentration of economics courses in Dublin and Cork, based on HEA field classifications.

²⁴ Logistic regression modelling of non-progression rates in higher education, HEA 2022.

Non-progression rates refer to rates for undergraduates between 1st and 2nd year only. Completion rates refer to the graduation rates for undergraduates. All completion rate data refer to entrants in 2008/09, 2009/10 and 2010/11.

^{26 &}lt;u>HEA Non-Progression data</u>, published 2022. Non-progression rates improved in 2019/20 but it remains to be seen if COVID dynamics influenced progression rates across the system.

²⁷ Logistic regression modelling of non-progression rates in higher education, HEA 2022.

²⁸ HEA completion rates analysis, 2021.

Progression and completion performance of HEIs should be looked at on an actual compared to expected performance basis, accounting for the differences in the student populations across HEIs. Ideally, performance measurement should be at the level of detailed field of study, or even course level, within HEIs to capture the large variances in performance within HEIs. For instance, HEA analysis of actual compared to expected completion rates of course areas within HEIs shows that travel, tourism and leisure courses in Galway-Mayo IT have a completion rate of 35%, compared to an expected rate of 52%, given the profile of students on these courses and the rates observed for other similar students across the higher education system.²⁹ Converse to this, nursing courses in Athlone IT have a completion rate of 94% when the expected rate of completion is 87%.30 At HEI level, IT Blanchardstown, a constituent now of TU Dublin, has a completion rate of 52% compared to an expected rate of 58%. So even though the college is expected to have a relatively low completion rate given the low points on average of entrants, it is still underperforming relative to the characteristics of the students. Athlone IT has a completion rate of 64%, compared to an expected rate of 60.5%, therefore outperforming expectations given the college's student population.

Graduate Outcomes: Heterogeneity in Earnings Post-Graduation

HEA graduate outcomes reports for the classes of 2017, 2018 and 2020³¹ provide details on the employment rates for graduates, by gender, field and NFQ level etc. In addition, graduate earnings are analysed by sub-group. For example, the class of 2018 report shows that graduates from disadvantaged areas earn almost €2,000 per year less than other graduates on average. Modelling of outcomes by controlling for the differences in other characteristics of these graduates indicates that around two-thirds of the difference in earnings can be accounted for by the differences in other characteristics (Leaving Certificate points, course choice, HEI attended etc), but that one-third of the difference remains after controlling for the underlying characteristics. **This analysis indicates that disadvantaged graduates tend to earn less on average, even when they graduate from the same field in the same HEI, with the same grade, work in same sector and region and are the same age as comparable graduates not from a disadvantaged background**. The gap also tends to widen with age. This is a useful insight into the heterogeneity of outcomes by socio-economic background. Broader level measures that look purely at outcomes overall hide this important information.³²

²⁹ HEA actual compared to expected completion rates analysis, 2021.

³⁰ Nursing courses have high *actual* and *expected* completion rates since students tend to have relatively high Leaving Certificate points and are largely female (females have higher completion rates than males overall).

³¹ HEA Graduate Outcomes Reports, <u>Class of 2017</u>, <u>Class of 2018</u> and <u>Class of 2020</u> (Class of 2019 survey not conducted due to COVID restrictions).

The HEA/DFHERIS should ideally publish detailed field of study outcomes, included earnings, by HEI akin to the data published in the UK (the Discover Uni database developed by the Office for Students) showing earnings by detailed field within HEIs, using graduate survey data and administrative earnings data from the Longitudinal Education Outcomes (LEO) dataset. This provides one concise database for students and potential students to compare courses, necessary given the amount invested by students in higher education. The CSO now publish earnings by HEI/broad field, but not at the level of detail provided in the UK. A similar database is available in the US showing earnings by course from each HEI, and also the costs involved (the US Department of Education College Scorecard). Once this level of transparency is in place, outcomes and earnings analyses can focus on the differences in outcomes by student background characteristics.

Further HEA research on graduate earnings conducted using administrative earnings data provided by the CSO³³ also shows significant heterogeneity in graduate earnings by HEI and by second-level school type, as a proxy for socio-economic background, even after controlling for the suite of student and institute characteristics.³⁴ Earnings differences by HEI are substantially reduced once characteristics such as award level, subjects offered and, crucially, Leaving Certificate points of entrants are controlled for, although differences remain when comparing otherwise like-for-like graduates, with graduates of universities and colleges tending to earn more on average than graduates of IoTs.

Higher education graduates that originally entered higher education from feepaying second-level schools earn substantially more on average than graduates from standard second-level schools and DEIS schools. However, after controlling for key characteristics such as HEI attended, course chosen and student demographics, therefore comparing otherwise like-for-like graduates, there is no statistical difference in earnings between those graduates originally from fee-paying second-level schools and those from standard second-level schools. Even after controlling for the suite of student and institute level characteristics, graduates originally from DEIS secondlevel schools are still predicted to earn around 2% less than graduates originally from standard second-level schools. Future earnings analysis will benefit from using deprivation index scores for each individual student, rather than second-level school type, as a measure of socio-economic background, given the range of deprivation/ affluence within many schools. Once again though, these earnings analyses show that outcomes are not uniform across the socio-economic spectrum of graduates, even when assessing graduates from the same college course, with the same grade, at the same age etc.

UK Research on Graduate Earnings and Social Mobility

Metrics on access to higher education in Ireland tend to focus on the number and proportion of students that come from a disadvantaged background or that have a disability etc. Recent focus has shifted to also encouraging students into further education, perhaps influenced by data on progression and completion rates in higher education. Although broad aggregate metrics almost always support the idea that higher education is beneficial to those who participate and graduate, this may not be true for all students. To maximise efficient use of taxpayers' money and to maximise outcomes for different types of students, analysis and metrics should focus on the outcomes by each sub-cohort. Government policy and school career guidance can then use evidence to influence students towards the best post-school path for them individually. Higher education as a promotor of research and knowledge and as a lever for equality of opportunity will benefit from having the best suited participants. In reality, at present there are likely many students in higher education that would be better served elsewhere, but likewise there are likely many potential students out there who do not make it into higher education who could

³³ Administrative earnings data from Revenue tax records are a more accurate and reliable source of earnings data than self-reported banded salary data collected in the HEA's graduate outcomes survey.

³⁴ An Analysis of Graduate Earnings Across Higher Education Institutions, HEA 2021 and An Analysis of Labour Market Earnings for Higher Education Graduates in their Early Careers, HEA 2019. The CSO now publish data on earnings by HEI annually. However, earnings by socio-economic background using administrative data are not yet published.

greatly contribute. Sections of the population, primarily in disadvantaged areas, that face barriers to entry are an untapped potential resource for higher education advancement.

Research by the Institute for Fiscal Studies (IFS) in the **UK** using longitudinal UK administrative earnings data shows that, although higher education is beneficial to the majority of graduates, outcomes vary substantially and for a minority of participants, there is little benefit. **Males who study arts, English or philosophy tend to have lower earnings at age 29 than otherwise similar males (controlling for a set of characteristics) who did not participate in higher education.**³⁵ Females tend to almost always benefit from higher education participation, since they tend to end up in lowly paid jobs if they do not attend college. Males generally benefit financially from higher education, and substantially so in many instances, but this is not universal as males tend to have well-paying opportunities outside of higher education, for example in trades. This may be a contributing factor to the widening participation gap between males and females in higher education across the western world, including in Ireland. This research shows that blanket acceptance of the idea that higher education is beneficial to participants is misled.

When assessing the potential benefits of higher education, the HEI attended and more specifically the course chosen are the key determining criteria. The HEA in Ireland have moved in recent years towards publishing more data at HEI and field of study level, and this has provided more evidence for policy makers. Publication of more data, particularly on outcomes by course, will further strengthen this evidence provision.

There are two versions of a social mobility index of HEIs in the UK, one produced by the IFS/Sutton Trust and the other by researchers from London South Bank University and published by the Higher Education Policy Institute. The strongest methodological approach is that of the IFS/Sutton Trust index, with the huge advantage of access to education and earnings microdata.³⁶ The IFS index calculates the mobility rate of a HEI or subject based on the access rate multiplied by the success rate. The access rate is the proportion of students that were eligible for free school meals at secondlevel, considered the strongest single measure of socio-economic disadvantage. The success rate is the proportion of these disadvantaged students that are in the top quintile (top 20%) of earners at age 30. Therefore, this index measures the proportion of students that achieve high levels of social mobility through higher education, at individual student microdata level.³⁷ Crucial to this and to alternate methodologies discussed later, some HEIs will score well on the proportion of disadvantaged students and others on the proportion of these that end up as high earners, thereby allowing for the different strengths of HEIs in terms of social mobility contribution. The top ranked university in the IFS analysis is Queen Mary, University of London with an access rate of 16.1% and a success rate of 42.2%, giving an overall mobility rate of 6.8%. Oxford and

^{35 &}lt;u>The Impact of Undergraduate Degrees on Early-Career Earnings</u>, IFS 2018.

^{36 &}lt;u>Which University Degrees are Best for Intergenerational Mobility?</u>, IFS Research Report 2021 & <u>Sutton Trust summary of findings</u>. Interactive data explorer of the findings available <u>here</u>.

This is a methodology largely adopted from Chetty et al at Opportunity Insights (Mobility Report Cards: The Role of Colleges in Intergenerational Mobility) – a research team devoted to the study of equality of opportunity in the US. Chetty's team measure the proportion of students that come from parents in the bottom income quintile but end up in the top income quintile themselves. Results by college show high success but low access rates for the 'Ivy-Plus' colleges, not dissimilar to the results for UK Russell Group universities in the IFS study. Access to a wealth of longitudinal administrative earnings data is required to follow this US approach. The UK IFS approach is more feasible in Ireland over the coming years – an analysis of those from disadvantaged areas that end up in the top quintile of earnings for instance.

Cambridge are ranked 95th and 93rd respectively of 110 universities in total. Although both have a high success rate, i.e. disadvantaged students who attend do very well after graduation, they both have extremely low access rates, therefore contributing little to social mobility overall. Oxford and Cambridge are among the highest ranked UK universities internationally in the world university rankings every year with strong reputations, research income and citations etc.³⁸ This shows the differences in metrics used and priorities that drive them.

The second social mobility index of UK HEIs from researchers in London South Bank University and published by the Higher Education Policy Institute (HEPI) uses aggregate data on HEIs to measure the relative social mobility strength of each HEI. Access, continuation and salary data are used to construct a composite index score for each HEI, based on z-scores³⁹ for each individual metric so every metric is measured on a common scale and can be combined.⁴⁰ The access metrics measure the proportion of students from Indices of Multiple Deprivation (IMD) quintiles 1 and 2, i.e. the most disadvantaged areas. The continuation metrics measure the proportion of IMD 1 and IMD 2 students that progress from year 1 to year 2. The salary metric measures the average salary by HEI I year after graduation. The 2021 version of this index used average salary of all graduates, since salary data were not available by IMD. The 2022 version methodology was updated to reflect the availability of salary data by IMD.⁴¹ Interestingly, this obvious methodological improvement did not radically alter the ranking of HEIs from 2021 to 2022. 16 of the top 20 HEIs in 2021 remained in the top 20 in 2022 and the top 3 ranked HEIs remained unchanged. The University of Bradford is ranked 1st, Aston University is ranked 2nd and Queen Mary, University of London is ranked 3rd in both 2021 and 2022. The vast difference in methodological approaches between the IFS and HEPI indices is apparent though. For example, the University of Cambridge is ranked 14th in the 2022 London South Bank University/HEPI index – a very strong ranking for contribution to social mobility, compared to the 93rd place ranking in the IFS index, a very poor ranking. However, many HEI rankings are relatively comparable across both indices - the University of Bradford, highest ranked in the HEPI index, is ranked 13th overall in the IFS index.

³⁸ For example the <u>Times Higher Education World University Rankings</u> and the <u>QS World University Rankings</u>.

Z-scores measure the number of standard deviations from the mean. A very high score may be +2 standard deviations from the mean for instance, a very low score may be -2 standard deviations from the mean score for all HEIs. This aggregate data z-score approach is actually not dissimilar to the methodology employed in the construction of the much-cited world university rankings, where multiple aggregate metrics are normalised, weighted and combined.

^{40 &}lt;u>Designing and English Social Mobility Index</u>, HEPI Debate Paper 27, 2021. HEPI article on the social mobility index is available <u>here</u> and the 2022 update to the index is available <u>here</u>.

⁴¹ For all metrics, access, continuation and salary, IMD 1 is given twice the weighting of IMD 2, as IMD 1 are the most disadvantaged areas. Access is also given an overall weight of 1.5, placing the most importance on access. Given that IMD 1 and IMD 2 are combined for the continuation score, continuation is given more overall weight than salary.

A Social Mobility Index of Irish Higher Education Institutions

The interactive data visualisation should be used in conjunction with the analysis below for a comprehensive overview of the social mobility index; available <u>here</u>.

Core purposes of higher education institutions include:

- (1) Contribution to research, knowledge and learning, including scientific and technological advancement;
- (2 Human capital development and provision of skilled workers for the labour market; and
- (3) Affording the opportunity for social mobility to those from disadvantaged backgrounds.

Higher education is the key policy tool available to Government to promote social mobility. The broad benefits of higher education to society are well established, in terms of contribution to economic growth, investment and employment rates/earnings for graduates.⁴² However, the focus internally by many in the sector is often more on (1) above and less so on (3). International rankings/league tables of HEIs, which attract so much attention and even resources from HEIs, focus on reputation and research outputs/citations, and are largely reflective of the relative wealth of individual HEIs, often through private investment. **Social mobility is not a factor in the main international university ranking metrics**. More weight attached to (3) above would allow for a more holistic measurement of the benefits of higher education to broader society, and not to privileged sub-sections only. Analysis of the heterogeneity of opportunities and outcomes for different types of students, particularly in a largely publicly-funded system such as the Irish one, is necessary to truly measure performance in the system.

One way to develop evidence of relative social mobility contribution of each HEI is via a social mobility index, akin to the UK approach.⁴³ In absence of access to longitudinal graduate earnings microdata at present, this Irish HEI social mobility index, developed by the PBO, adopts a methodology similar to the index of English universities constructed by London South Bank University / HEPI in the UK, described above. There are two necessary omissions from this index that were present in the UK methodology. Firstly, graduate earnings are not yet available by socio-economic background from the CSO. This was also an issue for the UK index in the first iteration in 2021. Secondly, regional price indices are not available in Ireland to deflate earnings, a method that was employed in the UK index. Even if a regional price index was available, graduate geographic mobility post-graduation would need to be factored in, not necessarily a straightforward exercise. Despite these limitations, the

⁴² CSO data show that <u>employment rates</u> and <u>earnings</u> are higher for those with a higher education compared to others.

There is a US Social Mobility Index of HEIs that precedes the UK versions, although it uses quite different metrics, including tuition and endowment. Full details <u>here</u>. The most prestigious Ivy League universities tend to score quite poorly as although their disadvantaged students tend to do extremely well after graduation, they have relatively few to begin with. This does not mean that colleges can not score well in both standard university rankings and a social mobility index – for example both UCL and LSE in the UK are in the top 20 of the social mobility index and score highly overall in world university rankings. Colleges such as these set examples for others by excelling in research excellence and social mobility.

methodology used in the construction of the Irish HEI social mobility index largely mirrors the English version.⁴⁴

The following 10 metrics are used:45

- 1. Proportion of undergraduates from disadvantaged small areas in 2018/19
- 2. Proportion of undergraduates from disadvantaged small areas in 2019/20
- 3. Proportion of undergraduates from marginally below average areas in 2018/19
- 4. Proportion of undergraduates from marginally below average areas in 2019/20
- 5. Proportion of undergraduates from disadvantaged small areas that progress from 1^{st} to 2^{nd} year, academic year 2018/19
- 6. Proportion of undergraduates from disadvantaged small areas that progress from 1^{st} to 2^{nd} year, academic year 2019/20
- 7. Proportion of undergraduates from marginally below average small areas that progress from 1^{st} to 2^{nd} year, academic year 2018/19
- 8. Proportion of undergraduates from marginally below average small areas that progress from 1^{st} to 2^{nd} year, academic year 2019/20
- 9. HEI median undergraduate earnings 1 year after graduation, class of 2018
- 10. HEI median undergraduate earnings 1 year after graduation, class of 2019

The index scores are calculated in the following steps:

- A. The five pairs 1 & 2, 3 & 4, 5 & 6, 7 & 8 and 9 & 10 are averaged over the 2 years. This allows for any particularly large deviations from the usual rates in a given year to be partially smoothed and also partially deals with relatively low counts in some smaller HEIs for certain metrics, e.g. progression rates for disadvantaged students may be based on a low count in smaller HEIs.
- B. Z-scores are calculated for the remaining 5 metrics, based on the average for the 22 HEIs. Z-scores measure the number of standard deviations from the mean value. Standard deviations measure the dispersal of data around the mean. In a standard normal distribution, 95% of values tend be within around plus or minus 2 standard deviations of the mean.

As is the case with the English version, relative, rather than absolute, contribution to social mobility is measured since metrics are proportions and averages, not counts/numbers. The overall index score measures the strength of the HEI in social mobility terms, relative to the number of students enrolled, not the overall number of students achieving social mobility. This is key when comparing, for instance, St Angela's College (small HEI) to University College Dublin (large HEI).

Thanks to the Higher Education Authority for providing socio-economic participation and progression data, where data were not already published, and thanks to the Central Statistics Office for providing undergraduate median earnings – although earnings data by HEI are published by the CSO, undergraduate earnings specifically were not openly available at the time of writing. The decision was made to use class of 2018 and class of 2019 earnings 1 year after graduation, earlier class data, slightly further into graduates' careers could be also be used in future. This will impact teacher training colleges salary position somewhat as graduates from other fields catch up in earnings terms. However, given larger more diverse colleges offer courses in STEM and the arts, on average teacher training colleges still fare well in salary terms, 2, 3 and 4 years after graduation. The more important future methodological improvement will be to include earnings for disadvantaged and marginally below average students specifically, not the currently limited overall median HEI earnings.

C. Weights are then applied to these values – marginally below average are weighted 0.5, to the disadvantage weight of 1, i.e. disadvantage are given twice the weight of marginally below average for both participation and progression metrics. Disadvantage and marginally below average are then summed for both participation and progression. Participation overall is also weighted x1.5, i.e. participation is weighted 2.25 in total, compared to 1.5 for progression and 1 for earnings. Then the final 3 values for participation, progression and earnings are summed into the final social mobility index score.

Weighting disadvantage more heavily than marginally below average seems necessary, although by what amount is subjective. The 1.5 weight applied to participation overall (resulting in 2.25 in total when disadvantage and marginally below average are summed), compared to the 1.5 weight for progression (when disadvantage and marginally below average are summed) and the 1 weight for earnings is certainly subjective. 46 This approach has been directly adopted from the English social mobility index and there is logic in attaching a higher weight to participation. Without the importance placed on participation, HEIs with high progression rates and earnings, but poor participation rates, may rank very highly, when in fact contribution to social mobility is quite limited. This index is designed to measure the contribution of each HEI to the distance travelled by disadvantaged students by allowing for the diverse strengths of HEIs. Some excel in taking in a lower proportion of disadvantaged students, but average distance travelled is further. Others excel in taking in a higher proportion of disadvantaged students, but average distance travelled is less. Both are contributions to social mobility, however, a critical mass of disadvantaged student participation is necessary to claim strong contribution to social mobility, hence the higher importance placed on this element.

Table 1 below shows the results of the Irish HEI social mobility index. Intermediate rankings are shown for participation, progression and earnings and also the overall social mobility ranking. Full raw data used to construct the index are shown in the appendix.

When the 1.5 participation weighting is removed, results don't change hugely – the top 3 and the bottom 3 HEIs are all still in place, with the only difference being 2^{nd} and 3^{rd} place swap places. There is some mid-table movement with a few HEIs changing ranks by 4 places.

Table 1: Social Mobility Index of Irish HEIs

HEI	Overall Social Mobility Rank	Participation Rank	Progression Rank	Earnings Rank
St Angela's College	1	10	1	1
Letterkenny IT	2	1	18	21
Mary Immaculate College	3	12	2	2
Dublin City University	4	17	4	4
Waterford IT	5	3	15	13
IT Carlow	6	2	16	16
University of Limerick	7	15	6	5
NUI Galway	8	14	7	9
Athlone IT	9	4	13	19
Trinity College Dublin	10	22	3	3
IT Tralee	11	6	14	20
IT Sligo	12	5	17	16
Maynooth University	13	11	10	12
University College Cork	14	20	5	7
Dundalk IT	15	7	20	13
Limerick IT	16	8	19	15
Galway-Mayo IT	17	9	22	11
University College Dublin	18	21	8	6
IADT	19	18	9	16
Cork IT	20	16	12	10
Technological University Dublin	21	13	21	7
NCAD	22	19	11	22

Source: Author's Analysis of HEA and CSO Data, applying the methodology used in the English Social Mobility Index.

A full overview of the social mobility index is included in the accompanying data visualisation.

Relative to size, St Angela's College in Sligo is the strongest performer in the area of social mobility, ranking 1st in both progression and earnings and 10th in participation, resulting in the top ranking overall. Both St Angela's College and Mary Immaculate College are teacher training colleges and a large proportion of their graduates are trainee teachers. Those entering the teaching profession do well in earnings terms in the years immediately after graduation, and beyond when compared to averages for all fields from other HEIs.⁴⁷ It's only when teaching is compared to specific fields, e.g. ICT, further away from graduation that its position starts to fall relative to others. Arts and humanities earnings, mixed in with STEM earnings elsewhere, impacts overall average HEI earnings. Future analyses, when the level of data required is available, should look at social mobility by HEI and field combined.

⁴⁷ Teaching students from disadvantaged backgrounds also tend to enter college with higher points on average than disadvantaged students in other fields. This impacts progression rates and future earnings and is a distinct advantage to specialist teacher training colleges. Non-progression rates are extremely low on teacher training courses.

Letterkenny IT, despite poor rankings in both progression and earnings, is ranked 2nd overall due to a very strong performance in participation, ranking 1st in that area and ahead of others by quite some way. Converse to this, despite strong rankings of 3rd overall in progression and earnings, Trinity College Dublin is ranked 10th overall, due to a very poor performance in participation, ranked bottom in that area. Dublin City University is the highest ranked university at 4th place overall. The National College of Art and Design is ranked bottom of the 22 HEIs overall, with poor rankings in participation and earnings and a mid-table ranking in progression. As an art college, NCAD's main focus may not be social mobility and labour market success for graduates. Their participation ranking shows that it is not a popular option with students from disadvantaged areas who likely seek more labour-market friendly options elsewhere.

Overall, there is a good mix geographically and by university/institute of technology/ college across the rankings. It does not appear to favour Dublin or non-Dublin institutes necessarily, although levels of disadvantage in the north-west certainly benefit HEIs in that part of the Country in terms of participation rankings.⁴⁸ Although 4 of the bottom 5 ranked HEIs are Dublin HEIs, 2 of these are specialist art colleges, which will always face challenges in terms of disadvantaged student participation and labour market earnings. Regional IoTs (now largely technological universities) are scattered throughout the rankings with large variances in performance. Many factors that feed into these metrics are beyond the direct control of HEIs - the area of the Country that they are in, their course offerings (at least in the short term), the points of the students entering their courses, which is a key predictor of outcomes, and labour market earnings across professions. However, there are other contributing factors that are, to some extent, within their control – improving participation of disadvantaged students, supporting disadvantaged students to progress and graduate and preparing disadvantaged students to be labour market ready. The purpose of this index is to refocus some attention towards social mobility, a factor that is glaringly missing from the oft-cited standard university rankings, and to encourage all HEIs to improve in this space collectively, to a point where the HEI ranked 22nd is actually performing strongly in social mobility terms.

⁴⁸ St Angela's College actually tend to attract students from most parts of the Country and the student population is not largely reflective of the local catchment area, in the way that the Letterkenny IT student population is.

Future Direction

Many of the higher education metrics currently included in the REV and the PSPR are activity metrics, not performance metrics. The REV and PSPR both include data on actual and 'target' student numbers, metrics which are largely determined by demographics and labour market conditions. To provide a more rounded view of overall performance, the metrics should contain broad breakdowns of trends in participation and outcomes for various groups, including disadvantaged students, with more detailed data available in dedicated higher education documents, given the need for brevity in the REV and PSPR. Although the REV contains metrics on access for disabled and traveller students, there are no metrics on access or outcomes for socio-economically disadvantaged students. Equality metrics in higher education need to move beyond access only to access and outcomes combined, the true measure of progress. The Department of Education's metrics, published in their education indicators report, on transition rates from DEIS and non-DEIS schools to higher education is a move in the right direction. Publication of more granular school level data and outcomes data for different types of schools/students will advance performance measurement further.

The HEA publish a large volume of data and research annually on higher education system performance, access, progression/completion and graduate outcomes, including sub-group analyses that analyse the outcomes for different types of students. Recent publication of earnings data by HEI is also a move in the right direction and further data on outcomes for disadvantaged students and others will provide evidence of the differing benefits that accrue from attaining a higher education for different types of students. Given over €1.6bn is provided annually by the HEA to public HEIs, there is very little data published in the REV on the outcomes achieved for this large spend. There is a disconnect from the bodies that are responsible for the spending - the HEIs. HEI performance is measured to an extent in institutional profiles, via strategic dialogue with the HEA and through publication of analyses by the HEA. However, more explicit performance measurement of HEIs, linking various datasets and questioning diverse performance in socio-economic participation, and progression/completion rates etc would strengthen accountability for taxpayers' money spent on higher education. Ultimately, this would require HEI priorities to align with Government education policy priorities.

Higher education student numbers increased 17% between 2015 and 2021, with not far short of a quarter of a million enrolments in 2021.⁴⁹ However, socio-economic diversity in the sector is still an issue and with limited evidence available on the benefits of graduating from specific courses, it is unclear if benefits accrue to all. More granular data is required in the future to measure the performance of HEIs and the outcomes for different types of students, while also protecting the arts & humanities, that may suffer if funding is eventually linked to course level outcomes.

Appendix: Full Data Tables

Table 2: Undergraduate Participation Data

Institute	Participation Disadvantaged 2018/19	Participation Disadvantaged 2019/20	Participation Marginally Below Average 2018/19	Participation Marginally Below Average 2019/20
Athlone IT	14%	14%	44%	45%
Cork IT	9%	9%	26%	25%
Dublin City University	8%	8%	29%	29%
IADT	8%	8%	21%	21%
Dundalk IT	14%	13%	42%	41%
Galway-Mayo IT	12%	12%	39%	39%
IT Carlow	18%	17%	43%	42%
IT Sligo	16%	14%	37%	36%
IT Tralee	13%	12%	47%	45%
Letterkenny IT	26%	26%	52%	53%
Limerick IT	14%	14%	37%	36%
Mary Immaculate College	9%	9%	35%	36%
Maynooth University	11%	11%	30%	30%
NCAD	7%	8%	22%	22%
NUI Galway	9%	9%	33%	32%
St Angela's College	10%	10%	48%	45%
Technological University Dublin	11%	12%	23%	23%
Trinity College Dublin	5%	6%	19%	19%
University College Cork	6%	7%	24%	24%
University College Dublin	6%	5%	22%	21%
University of Limerick	8%	8%	36%	36%
Waterford IT	17%	17%	41%	41%

Source: HEA Data (% of students from disadvantaged and marginally below average areas)

Table 3: Undergraduate Progression Data

Institute	Progression Disadvantaged 2018/19	Progression Disadvantaged 2019/20	Progression Marginally Below Average 2018/19	Progression Marginally Below Average 2019/20
Athlone IT	82%	84%	88%	86%
Cork IT	83%	84%	85%	88%
Dublin City University	91%	96%	92%	97%
IADT	79%	100%	86%	92%
Dundalk IT	77%	80%	82%	87%
Galway-Mayo IT	73%	82%	80%	89%
IT Carlow	80%	84%	83%	89%
IT Sligo	79%	88%	79%	86%
IT Tralee	83%	86%	83%	83%
Letterkenny IT	74%	88%	83%	89%
Limerick IT	80%	81%	82%	84%
Mary Immaculate College	94%	94%	96%	97%
Maynooth University	87%	88%	90%	90%
NCAD	91%	81%	83%	95%
NUI Galway	91%	93%	92%	93%
St Angela's College	100%	100%	98%	97%
Technological University Dublin	74%	82%	81%	87%
Trinity College Dublin	92%	96%	92%	97%
University College Cork	92%	94%	94%	94%
University College Dublin	85%	94%	91%	94%
University of Limerick	90%	93%	92%	95%
Waterford IT	80%	85%	84%	88%

Source: HEA Data (% progression from 1st to 2nd year)

Table 4: Undergraduate Earnings Data

Institute	Median Weekly Undergraduate Earnings, 1 Year after Graduation, Class of 2018	Median Weekly Undergraduate Earnings, 1 Year after Graduation, Class of 2019	
Athlone IT	€475	€490	
Cork IT	€505	€525	
Dublin City University	€590	€615	
IADT	€480	€490	
Dundalk IT	€490	€510	
Galway-Mayo IT	€500	€525	
IT Carlow	€475	€495	
IT Sligo	€485	€485	
IT Tralee	€460	€490	
Letterkenny IT	€445	€465	
Limerick IT	€485	€490	
Mary Immaculate College	€695	€710	
Maynooth University	€500	€510	
NCAD	€390	€410	
NUI Galway	€510	€525	
St Angela's College	€695	€720	
Technological University Dublin	€515	€530	
Trinity College Dublin	€600	€615	
University College Cork	€510	€535	
University College Dublin	€530	€545	
University of Limerick	€550	€575	
Waterford IT	€490	€510	

Source: CSO Data (earnings adjusted for inflation)



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Table 5: Contextual Data – Funding and Student Numbers

HEI	Total HEA Funding 2020	2020 Access Funding	2019/2020 FTE UG Enrolments	2020/2021 FTE UG Enrolments
Athlone IT	€41,232,000	€652,000	3,797	3,915
Cork IT	€82,373,000	€1,276,000	9,097	9,270
Dublin City University	€112,007,000	€2,524,000	12,573	12,456
IADT	€16,659,000	€345,000	1,918	2,006
Dundalk IT	€35,031,000	€685,000	4,185	4,291
Galway-Mayo IT	€49,668,000	€1,393,000	6,054	6,303
IT Carlow	€39,219,000	€881,000	5,702	6,058
IT Sligo	€45,522,000	€669,000	4,755	5,065
IT Tralee	€24,134,000	€421,000	2,548	2,473
Letterkenny IT	€28,953,000	€1,496,000	3,222	3,456
Limerick IT	€47,079,000	€1,028,000	5,784	6,086
Mary Immaculate College	€29,211,000	€557,000	4,013	3,958
Maynooth University	€102,015,000	€1,816,000	10,270	10,506
NCAD	€15,319,000	€174,000	1,045	1,083
NUI Galway	€122,042,000	€2,001,000	13,529	13,246
St Angela's College	€7,683,000	€188,000	862	925
Technological University Dublin	€164,001,000	€3,600,000	20,085	20,917
Trinity College Dublin	€145,043,000	€1,735,000	12,315	12,954
University College Cork	€149,095,000	€2,795,000	15,386	15,077
University College Dublin	€174,168,000	€3,200,000	17,877	17,668
University of Limerick	€112,071,000	€2,245,000	11,602	11,921
Waterford IT	€57,492,000	€1,273,000	7,052	7,221

Source: HEA Data (FTE = FT +0.5PT)