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**An Roinn Oideachais  
agus Scileanna**  
Department of  
Education and Skills

Projections of demand for full-time third level education,  
2018 to 2040

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[www.education.ie](http://www.education.ie) and go to [Statistics/Projections of Enrolment](#)

For further information please contact:

Violeta Moloney at 01 – 889 2289 or by e-mail at

[Statistics@education.gov.ie](mailto:Statistics@education.gov.ie)



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## **Introduction**

This report provides demographic projections of the demand for full time third level education in state-aided institutions for the period 2018-2040. While the purpose of the report is to estimate future demand, actual enrolments may differ due to fluctuating economic circumstance and resulting shifts in students' options and preferences. In this regard no specific allowance has been made for the impact of Brexit on future demand for third level places; this is something that may be reviewed in a future report.

The numbers enrolled in higher education have been steadily increasing in recent years driven primarily by demographic factors. Full time enrolments in third level institutions have grown substantially over the past 10 years rising from 138,319 in 2007 to 183,642 in 2017, an increase of 32.8 per cent. Ireland's particular demographic make-up, with peaks in births in the 1980 (74,064) and again 30 years later (75,554), and a low point in 1994 with just 48,255 births, has led to large fluctuations in demand across all sectors of education from primary to post-primary to third level.

In addition to demographic-led demand other pressures are likely to arise from policy initiatives that aim to increase participation in higher education from under-represented socio-economic groups, mature students, international students, and further education graduates. Increasing evidence of the benefits of a third level education, not just for the individual but for the wider economy, is also likely to add to demand.

### **2017 overview**

Entrants into third level education fall into three main groups, namely direct transfers from second level (up to 4 years after leaving school), mature students aged 23 and over, and international students. In 2017 transfers from post-primary accounted for 37,541 of the total 44,124 entrants, mature students made up a further 3,547 while international entrants stood at 3,036.

In order to project future transfers from post-primary the transfer rate from second to third level must be derived and then applied to the projected number of pupils in the final year of school for each year out to 2040. The percentage of pupils who transfer to

third level has shown a slow but steady increase in recent years, rising from 61.9 in 2010 to 63.8 in 2014. The most recent exercise shows a transfer rate from second level of 64.7 per cent in 2016.

The second component, namely the number of mature students, is estimated as a percentage of the projected population at each single year of age, based on past patterns.

International students are calculated by projecting forward total enrolments out to 2020 based on recent trends (and in line with government objectives), and then making assumptions about how this will evolve into the future. EU and non-EU students are treated separately.

The 2017 total enrolments were broken down as follow:

Table 2: Full time enrolments by programme, student type, 2017

2017	Irish	International	Total
Undergraduates	144,530	15,293	159,823
Postgraduates	16,183	7,636	23,819
Total	160,713	22,929	183,642

## Scenarios

Within the projections model three variants of the transfer rate are used going forward. The first variant maintains the current transfer rate out to 2040. Scenario two steadily increases the transfer by 10 per cent over the next 10 years, giving a transfer rate of 71.1 by 2027, and holds it steady thereafter. Finally, to allow for continued recovery in the labour market and the possible switch to the Further Education (as opposed to Third Level), the third scenario sees the transfer rate falling by 10 per cent to 58.2 by 2027, and holding steady thereafter.

Mature students are treated consistently across all scenarios.

In 2017 international students made up 12.5 per cent of all students in Irish third level institutions. The Government International Education Strategy has set a target for non-EU international students to increase strongly over the coming years. International students can be broken down into EU students (who typically pay the same fees as Irish students), and non-EU students, who typically pay full fees. The model has two scenarios for international students; the first sees non-EU international students increase by 9.9 per cent each year up to 2020, in line with the most recent 2016/17 increase, while EU students are increased by 100 each year up to 2020; both are then held steady out to 2040. Scenario two sees the same increase up to 2020 followed by a further rise of 25 per cent for both EU and non-EU between 2020 and 2040 giving a total percentage increase of 60 per cent by the end of the period.

Combining the three transfer scenarios with the two scenarios on international students gives the following combined scenarios for results:

Table 3: Scenario matrix

	International +9.9% p.a. to 2020 and steady thereafter	International +9.9% p.a. to 2020 followed by +25% out to 2040
Transfer Rate steady at 64.7%	S1 (low)	S2 (moderate)
Transfer Rate rises by 10% by 2027	NOT COMPILED	S3 (strong)
Transfer Rate falls by 10% by 2027	S0 (negative)	NOT COMPILED

## Calculating total enrolments

Total enrolments of Irish (national) students are arrived at by adding projected new entrants from post-primary school (for each year out to 2040) to the previous year's total enrolments of Irish undergraduates, and then adjusting this figure by the Rate of Undergraduate Turnover (ROUT) (which adjusts for non-returning students). Postgraduate enrolments are then estimated as a proportion of undergraduate enrolments based on recent trend data available from the Higher Education Authority. International enrolments are estimated by increasing total enrolments by 9.9 per cent for the next three years, followed by the amount indicated by the respective scenario.

The split of international enrolments into undergraduate and post-graduate is based on previous breakdowns.

## Results

Table 4 presents results of total enrolments under the 4 scenarios outlined above for selected years out to 2040.

Under scenario S1 (baseline) total enrolments will rise each year up to 2030 and peak at 222,514, an increase of over 38,870 on 2017 levels, driven primarily by demographic trends. After 2030 numbers will fall steadily to reach 203,000 by 2040. Scenario S2, which holds the transfer rate steady but increases international enrolments by an additional 25 per cent over S1, will add an additional 3,658 students by 2030, and over 7,300 by 2040. Under S3 where both the transfer rate and international students rise strongly, enrolments in 2030 are projected to be 58,556 higher than 2017.

Table 4: Projections of full time demand for places in Third Level Institutions, 2018-2040 ([Download detailed file](#))

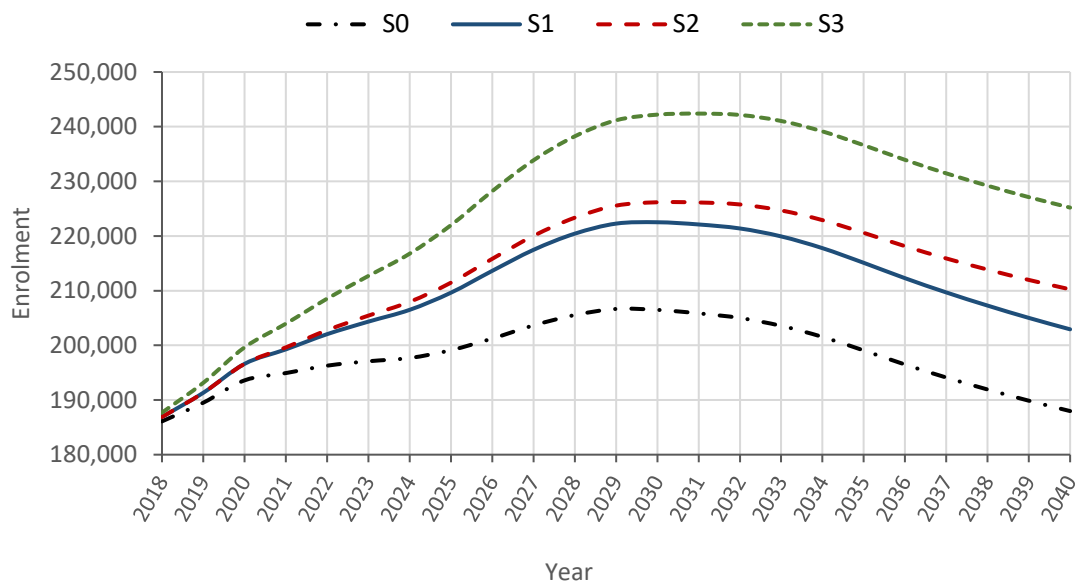
	S1 (baseline)	S2	S3	S0
2017	183,642			
2018	186,890	186,890	187,689	186,091
2019	191,324	191,324	193,141	189,506
2020	196,609	196,609	199,626	193,591
2023	204,339	205,437	212,691	197,085
2026	213,624	215,819	228,202	201,241
2029	222,264	225,556	241,167	206,653
2030	222,514	226,172	242,198	206,488
2031	222,109	226,133	242,392	205,850
2032	221,379	225,769	242,145	205,003
2035	215,091	220,578	236,607	199,063
2038	207,269	213,854	229,203	191,921
2040	202,925	210,241	225,193	187,972

Other key points to note:

-Under the Department's baseline scenario (S1), demand for full time education is projected to increase by 12,967 by 2020.

-Even with a falling transfer rate (S0), demand for third level full time places is projected to continue to increase substantially until 2029 (up 23,000) as a result of demographic pressures.

Figure 1: Projected enrolment at third level, 2018-2040





## **Irish, international, undergraduates, post-graduates**

The breakdown of total enrolments into undergraduates, post-graduates, Irish and international for scenarios S1 and S3 for next 10 years is shown in Table 5 (over). Under scenario S1 Irish undergraduates will rise by 24,740 by 2027 an increase of 17 per cent on 2017, while postgraduates will increase by 2,750. Under S3, a rising transfer rate, total enrolments of these groups will rise by 37,174 (undergraduate) and 4,141 (postgraduate), a 26 per cent increase on 2017 and a difference of 13,825 students.

For international students under S1 undergraduate enrolments will rise by 4,300 by 2020 while post-graduate numbers will rise by 2,000. The strong S3 scenario, where an additional 25 per cent increase has been applied to international students, will see numbers continuing to rise right up to 2027 giving an additional 6,000 undergraduates and 2,900 post-graduates, and giving a difference of 2,560 with S1.

As can be seen therefore it is the transfer rate combined with demographic change that will ultimately determine demand for third level places in future years.

Table 5: S1 and S3 scenarios enrolments, 2018-2027 ([Download detailed file](#))

	S1					S3				
	Undergraduate		Post-graduate			Undergraduate		Post-graduate		
	Irish	International	Irish	International	Total	Irish	International	Irish	International	Total
2018/19	145,735	16,599	16,301	8,255	186,890	146,454	16,599	16,381	8,255	187,689
2019/20	147,829	18,028	16,535	8,932	191,324	149,463	18,028	16,718	8,932	193,141
2020/21	150,510	19,593	16,835	9,672	196,609	153,224	19,593	17,138	9,672	199,626
2021/22	152,892	19,593	17,101	9,671	199,258	156,789	19,837	17,537	9,792	203,956
2022/23	155,397	19,593	17,382	9,671	202,042	160,581	20,082	17,961	9,913	208,537
2023/24	157,463	19,593	17,613	9,671	204,339	163,987	20,327	18,342	10,034	212,691
2024/25	159,400	19,593	17,829	9,671	206,494	167,324	20,572	18,716	10,155	216,767
2025/26	162,224	19,593	18,145	9,671	209,633	171,684	20,817	19,203	10,276	221,980
2026/27	165,813	19,593	18,547	9,671	213,624	176,951	21,062	19,792	10,397	228,202
2027/28	169,270	19,593	18,933	9,671	217,468	181,704	21,307	20,324	10,518	233,852

## Methodology

### Calculation of a Transfer Rate from Second to Third Level

In order to arrive at an accurate rate of transfer of students from second to third level, the set of post-primary pupils who finished school in June 2016 were matched with entrants to third level institutions in the following September (2016) to determine the proportion of pupils that transfer directly to third level. Post-primary pupils from the preceding four years (2012 – 2015) are also matched with the same set of third level entrants to determine the percentage of those who transfer in each of the four years after leaving school; this is to account for students who do not go directly to third level for various reasons (such as repeating the Leaving Cert, doing a PLC, working, or travelling). Therefore whichever path is taken to third level, the data matching exercise ensures that students who enter third level before the age of 23 are captured in the transfer rate for projection purposes.

The most recent data matching exercise was conducted using Higher Education Authority 2016/2017 Student Records System entrants, and second level final year data from the Department of Education and Skills post primary pupils' database for the 5 academic years previous to 2015/2016.

Table 6: The results of the matching exercise are as follows:

Final year second level	Percentage who entered third level in September 2016
June 2016	48.16
June 2015	11.21
June 2014	3.14
June 2013	1.45
June 2012	0.72

Adding these results together indicates that 64.67% of any final year second level cohort will transfer to a HEA third level institution before reaching the mature student age.

### Mature Entrants

Mature entrants are those who enrol for first time at age 23 or over. These applicants are entitled to be assessed for financial supports independently of their parents and the age profile of undergraduate new entrants consistently shows a surge in those entering third level institutions at age 23 or 24, with a gradual levelling off thereafter. The number of mature entrants for this report were estimated as a percentage of the projected total cohort at each single year of age out to 2040, based on past patterns. For example in 2017 there were new 232 entrants aged 25 representing 0.41 per cent of all 25 year olds; applying this ratio to the projected number of 25 year olds in 2024 gives 275 new entrants.

The total number of mature new undergraduate entrants for randomly selected years is shown in Table 7.

Table 7: Mature entrants to undergraduate programme

Year	2017	2020	2023	2027
Mature Irish Entrants	3,547	3,602	3,736	3,877

## Rate of Undergraduate Turnover (ROUT)

In addition to projecting the number of new entrants, allowance must be made for the likely level of non-continuing enrolments. The rate of the National students' undergraduate turnover, ROUT, can be described as the percentage of total undergraduates "turned over" (continuing) into the following academic year. If one takes the total stock in one year, then those remaining the following year are those that have neither graduated nor dropped out of college; no distinction made between the two and the ROUT simply gives an implied figure for combined turnover in the sector year-on-year due to both graduation and dropout.

It is calculated as follows:

$$\text{Rate of Undergraduate Turnover} = \text{ROUT} = (\text{Stock}^{t+1} - \text{Entrants}^{t+1}) / \text{Stock}^t$$

Where

$\text{Stock}^t$  = total National students enrolment in full time undergraduate courses at Higher Education in year T

$\text{Stock}^{t+1}$  = total National students enrolment in full time undergraduate courses at Higher Education in year T+1

And  $\text{Entrants}^{t+1}$  = total intake to full time National students undergraduate courses at Higher Education in year T+1

As an example, from 2016/2017 to 2017/2018 academic year, the ROUT is calculated as follows:

<i>Stock 2017:</i>	<i>144,530</i>
<i>Entrants 2017:</i>	<i>41,088</i>
<i>Stock 2016:</i>	<i>142,998</i>
<i>ROUT =</i>	<i>(144,530 – 41,088) / 142,998</i>

This gives a rate for the sector as a whole of just over 72.3 per cent. The recent ROUT coefficient (72.3%) is carried throughout the mode.

## Postgraduate Enrolments

Postgraduate enrolments of National students are estimated as a proportion of total full time enrolments of National students.

In recent years there has been a gradual decrease in the proportion of postgraduate enrolments among Irish students falling from 11.2 per cent in 2012 to 10.1 per cent in 2017. This figure of 10.1 per cent is carried throughout the model.

## Appendix A: Comparison with previous projections

The enrolments data compiled in this report differs in several important respects from that compiled previously. The 2015 projections data excluded those students who are not directly funded by the Department of Education and Skills, namely students known as 'occasionals'<sup>i</sup>, and students who attend the Royal College of Surgeons in Ireland. In order to provide data that is as comprehensive as possible and also fully comparable with that published by other sources (e.g. HEA), these two groups of third level students are included in the numbers in this report

Combined, these students accounted for 7,300 students in 2015 and the impact of their exclusion from 2015 figures is clear. For example in the 2015 report enrolments were projected to reach 174,439 by 2017 while the actual outturn was 183,642, a difference of 9,203. If the occasional and RCSI students had been included this gap would have narrowed to 3,060. This difference of some 3,000 students can be attributed to the transfer rate from post-primary rising faster than expected, combined with a higher than expected number of international students.

Another important difference with the previous projections report is that for this report international students are projected forward on the basis of total international enrolments broken down by EU / non-EU, whereas in the earlier report the past trend in entrants of international and mature students (combined) was carried forward.

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<sup>i</sup> Relates to students who are taking intramural courses of lectures or laboratory instruction, which do not necessarily lead directly to a higher education qualification or require examination by the host institution. These can include Irish students or students from abroad on a visiting programme such as the JYA. These students will not receive an award from their institution on completion.