



Rialtas na hÉireann
Government of Ireland

Projections of full-time enrolments

in state-aided third level institutions

2021 to 2040

November 2022

This report and others in the series may be accessed at:

<https://www.gov.ie/en/collection/projections/>

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1. Introduction

This report provides demographic projections of enrolment in third level education in state-aided institutions¹ for the period 2021-2040. The purpose of the report is to estimate likely future enrolment based on demand and supply, taking into consideration current social, demographic and environmental factors. Users should note that the report has been compiled in the shadow of both the Covid19 pandemic and Brexit, and while consideration has been given to the impact of both events in developing this model there remains significant uncertainty around these factors. Changes in the social and economic landscape, combined with increases in alternative pathways, can lead to shifts in students' options and preference and the results should be considered in this light.

Ireland has a distinctive demographic curve, made up of large peaks and troughs in births, fluctuating from 74,064 in 1980 down to just 48,255 in 1994, and back to 75,554 in 2009. Rising and falling births naturally translate into large rises and falls in demand across all levels of education, from primary through to third level. During this current cycle primary enrolments peaked in 2018 and are now on a downward trajectory out to 2033; post-primary enrolments are projected to peak in 2024, after which they will fall steadily out to 2039 [\[1\]](#). Enrolments in third level can be expected to peak six years after the peak in post-primary.

2. Overview of the projections model

Enrolments in higher education have been increasing steadily in recent years, rising from 173,286 in 2014 to 189,904 in 2019 [\[2\]](#); this has been driven by a combination of demographic demand and an increase in availability. Arising from the impact of the pandemic specific interventions resulted in further additional places being made available in both 2020 and 2021 (2,200 in 2020 and 3,300 in 2021); this resulted in a sharp rise in enrolments in 2020, when they stood at 196,005, an increase of 6,101 on 2019.

Enrolments are made up of both undergraduate and post-graduate students, of both domestic and international origin, as presented in Table 1.

Total undergraduate enrolments stood at 165,946 in 2020, accounting for 84.7 per cent of all enrolments, with post-graduates accounting for the remaining 15.3 per cent. Domestic

¹ In 2020 this included 9 universities – UCD, TCD, DCU, NUI Galway, UCC, Maynooth, UL, TUD, RCSI and 11 institutes of technology (Waterford, Carlow, Dundalk, Letterkenny, Cork, Athlone, Sligo, Dun Laoghaire, Galway and Mayo, Limerick, Tralee).

students accounted for just under 89.0 per cent of all enrolments, and within that undergraduates, at 153,410, accounted for 78.3 per cent of all students.

Total enrolments in 2020 of undergraduates and post-graduates were as follows:

Table 1 Full-time enrolments by programme, student type, 2020

2020	Domestic	International	Total
Undergraduates	153,410	12,536	165,946
Postgraduates	20,778	9,281	30,059
Total	174,188	21,817	196,005

3. Projections assumptions

Projected enrolments of domestic students are arrived at by adding projected new entrants to the previous year's total enrolments, and then adjusting for non-returning students (known as the Rate of Undergraduate Turnover - *ROUT*). Domestic postgraduate enrolments are then estimated as a percentage of undergraduate enrolments using recent trend data.

Enrolments of international undergraduates are arrived at by trending forward total enrolments based on past-patterns and likely future changes (see assumptions below), while post-graduates are estimated as a percentage of total undergraduates.

Three assumptions have been applied to the transfer rate from post-primary, and two assumptions have been used for international students, giving six sets of results. Four of these sets of results are presented in this report. The assumptions were agreed by an Expert Group (see membership in Appendix B) which met in March 2022 and the Department wishes to express its gratitude to the members of the Group for their input and advice during the discussions leading to the adoption of these assumptions.

3.1 Transfer rate

New entrants of school leavers are estimated by applying a transfer rate to the projected number of pupils in the final year of school for each year out to 2040. Past patterns of transfer rates are examined and assumptions are made about likely future trends; transfer rates can be impacted by factors such as the prevailing jobs market, alternative opportunities in Further Education, apprenticeships, and available spaces.

Transfer rates are measured over five years and the results from 2014 to 2020 are presented in Table 2 below. As can be seen, in the region of 50 per cent of all post-primary pupils transfer to third level directly from school, while another 10 per cent or so will transfer the following year. Pupils continue to enter third level up to five years after their leaving certificate, after which they are generally considered mature students (see section below).

Following the economic downturn between 2010 and 2014 transfer rates rose from 61.9 (not shown) to 67.7, but after 2015 they began to decline, falling from 64.0 per cent in 2015 to 62.1 per cent in 2019. Reflecting the impact of the Covid19 pandemic 2020 saw a sharp upturn in the transfer rate, with the year 1 rate rising from 47.7 in 2019 to 51.9 in 2020.

Table 2 Transfer rate to HE from 6th year post-primary

		<i>Year of entry to third level</i>						
		<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>
	5 year rate	67.7	64.0	64.4	63.6	63.4	62.1	66.1
<i>Year of leaving school</i>	<i>2020</i>							51.9
	<i>2019</i>						47.7	9.9
	<i>2018</i>					49.3	10.1	2.6
	<i>2017</i>				48.9	9.8	2.6	1.1
	<i>2016</i>			49.6	10.2	2.5	1.0	0.6
	<i>2015</i>		49.6	9.9	2.7	1.1	0.7	
	<i>2014</i>	49.1	9.3	2.9	1.1	0.6		
	<i>2013</i>	11.6	2.9	1.4	0.7			
	<i>2012</i>	3.8	1.4	0.7				
	<i>2011</i>	1.9	0.8					
	<i>2010</i>	1.2						

It was the view of the expert group that this rise in the transfer rate in 2020 will be temporary in nature. Some 2,200 additional places were put into the system in 2020, and it is intended that these temporary places will be steadily removed over the coming years. Furthermore it is thought that a combination of a recovering jobs market along with policy interventions aimed at promoting alternative pathways in education will lead to a softening of demand. Taking this on board, three assumptions have been applied to the transfer rate in the model:

- The Low assumption will see the transfer rate revert sharply to the pre-pandemic 2019 level of 47.7 in 2022 and will then be held at 47.5 for remainder of the model. Rates in years 2 to 5 will follow a similar path.
- The Medium assumption will see the transfer rate revert steadily to the pre-pandemic 2019 level of 47.7 by 2025 and will then be held at 47.5 for remainder of the model. Rates in years 2 to 5 will follow a similar path.
- The High assumption will see transfer rates revert to 50.0 by 2023 and remain at this level out to 2040.

3.2 Mature students

Mature entrants are those who enrol for first time at age 23 or over. New entrants of mature students are estimated as a percentage of the population at each single year of age based on current patterns; the same method is applied uniformly in all sets of results.

3.3 International students

In 2020 international students made up about one in nine of our third level students, or 11.1 percent.

EU and non-EU students are treated separately in the model.

Recent enrolments of undergraduate international students is presented in Table 3. As can be seen enrolments of non-EU students increased slowly between 2016 and 2019, when they stood at 12,569 after which they fell sharply to 9,671 in 2020, as a result of the pandemic.

It was the view of the expert group that enrolments of non-EU students are likely to recover to their pre-pandemic levels over the coming years. Accordingly, under the Moderate assumption total enrolments of undergraduate non-EU students will recover to 13,000

students by 2025 and will then be held steady out to 2040. Under the High scenario they will increase by a further 25 per cent between 2025 and 2040.

Table 3 Full-time undergraduate enrolments by domiciliary, by year

		2016/17	2017/18	2018/19	2019/20	2020/21
<i>Full-time Enrolments Undergraduate</i>	<i>International Non-EU</i>	11,987	12,595	12,924	12,569	9,671
	<i>International EU</i>	2,319	2,310	3,004	2,439	2,865
	<i>Total Undergraduate</i>	157,518	159,823	160,619	162,538	165,946

The number of EU undergraduate students rose between 2019 and 2020, contrary to expectations. It was the opinion of the expert group that enrolments of EU students will continue to rise steadily, bolstered by Brexit and the associated impact of the UK leaving the Erasmus programme, leaving Ireland as the only English speaking country now participating. Accordingly, under the Moderate assumption undergraduate enrolments of EU students will increase by 6 per cent per annum up to 2025 and then be held steady out to 2040. Under the High assumption enrolments of EU Students will be set to double from the 2020 figure of 2,865 to 5,730 by 2040 (Tabs 4 & 5).

The above assumptions can be summarised in the following table.

Table 4 Projections model main assumptions

<i>Year</i>	<i>Post-primary pupils</i>		<i>International Undergraduate</i>			
	<i>Transfer rates</i>		<i>EU</i>		<i>Non-EU</i>	
	<i>up to 2025</i>	<i>2026+</i>	<i>up to 2025</i>	<i>2026+</i>	<i>up to 2024</i>	<i>2025+</i>
Low	Sharp reversion to 2019 rates in 2022	Hold steady (from 2023)	Inc. by +6% p.a.	keep steady	Inc. gradually to 13,000	Hold steady
Medium	Steady reversion to 2019 rates by 2025	Hold steady	Inc. by +6% p.a.	keep steady	Inc. gradually to 13,000	Hold steady

High	Revert to 50% by 2023	Hold steady	double the numbers up to 2040	Inc. gradually to 13,000	further inc. by 25% up to 2040
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Using these assumptions four variants of results have been produced, as follows:

Table 5 Projected scenarios by transfer rate, by migration

	<i>International Medium</i>	<i>International High</i>
<i>Transfer Rate Low</i>	S0 (Low)	NOT COMPILED
<i>Transfer Rate Medium</i>	S1 (Moderate)	S2 (Strong)
<i>Transfer Rate High</i>	NOT COMPILED	S3 (Very strong)

4. Results

4.1 Calculating total enrolments

Table 6 and Figure 1 (over) present results of total enrolments under the 4 scenarios outlined above for all years out to 2040.

Under scenario S1 (moderate) total enrolments will rise each year up to 2030 and peak at 239,655, an increase of over 43,650 on the 2020 level of 196,005. After 2030 numbers will fall steadily to reach 217,105 by 2040, still some 20,000 higher than today's level.

Under S0, the Low scenario, where the transfer rate is sharply decreased to the pre-pandemic 2019 level and with a moderate assumption of international enrolments, total enrolments are projected to rise each year up to 2031 to reach 239,148, a slightly lower peak than under the S1 scenario. Scenario S2, High, which holds the transfer rate steady but increases international enrolments by an additional 25 per cent over S1, will add an additional 3,231 students by 2030, and almost 9,000 by 2040. Under S3, Very High, where the transfer rate is held at 50.0 and international students rise by a further 25 per cent, enrolments in 2030 are projected to be 52,890 higher than 2020.

Other key points to note:

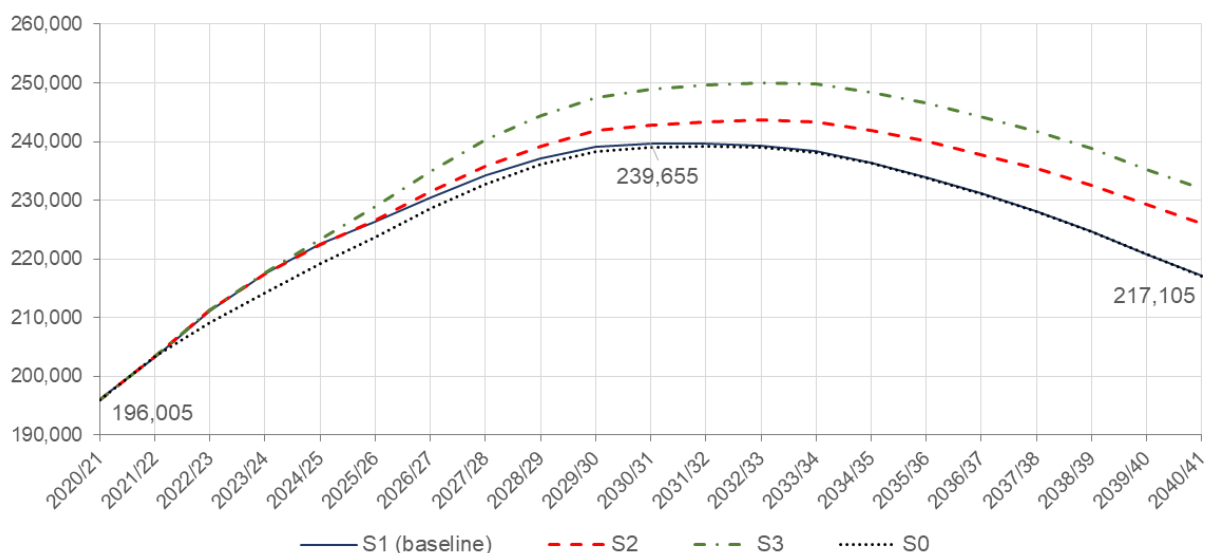
- Under the Department's moderate scenario (S1), demand for full time places in Third level institutions is projected to be 15,221 higher in 2022 than in 2020 (the most recent year for which enrolments are available).

-Under same scenario, the demand is projected to continue to increase substantially until 2030 (and increase by an additional 28,400 on 2022) as a result of demographic pressures.

Table 6 Projections of full time demand for places in Third Level Institutions, 2021-2040, ([Excel file](#))

Year	S0	S1 (moderate)	S2	S3
2020/21	196,005 (actual enrolment)			
2021/22	203,294	203,294	203,294	203,294
2022/23	209,092	211,226	211,226	211,309
2023/24	214,241	217,409	217,409	217,551
2024/25	219,262	222,502	222,502	223,412
2025/26	223,734	226,314	226,665	228,959
2026/27	228,519	230,440	231,367	234,909
2027/28	232,791	234,222	235,725	240,209
2028/29	236,112	237,178	239,256	244,439
2029/30	238,362	239,156	241,810	247,496
2030/31	239,064	239,655	242,886	248,895
2031/32	239,148	239,588	243,395	249,633
2032/33	238,962	239,290	243,672	250,071
2033/34	238,136	238,380	243,338	249,822
2034/35	236,258	236,439	241,973	248,462
2035/36	233,799	233,935	240,044	246,498
2036/37	231,048	231,149	237,835	244,228
2037/38	228,110	228,185	235,447	241,761
2038/39	224,651	224,707	232,544	238,747
2039/40	220,761	220,802	229,215	235,285
2040/41	217,074	217,105	226,094	232,044

Figure 1 Projected enrolment at third level, 2021-2040



4.2 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 7 (over). Note full results for all scenarios are available in the excel table, available [here](#). Under scenario S1 Irish undergraduates will rise by 31,993 by 2031 an increase of 20.9 per cent on 2020, while postgraduates will increase by 4,333. Under S3 (Very strong), the higher transfer rate, total enrolments of these groups will rise by 37,487 (undergraduate) and 5,077 (postgraduate), a 24.4 per cent increase on 2020 and a difference of 6,238 students.

For international students under S1 undergraduate enrolments will rise by 4,229 by 2025 while post-graduate numbers will rise by 3,028. 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 2031 giving an additional 6,437 undergraduates and 4,627 post-graduates, and giving a difference of 3,807 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 7 S1 and S3 scenarios enrolments, 2021-2031, ([Excel file](#))

Year	S1					S3				
	Undergraduate		Post-graduate		Total	Undergraduate		Post-graduate		Total
	Irish	International	Irish	International		Irish	International	Irish	International	
2020/21 (actual)	153,410	12,536	20,778	9,281	196,005	153,410	12,536	20,778	9,281	196,005
2021/22	159,049	13,045	21,542	9,658	203,294	159,049	13,045	21,542	9,658	203,294
2022/23	164,227	14,225	22,243	10,531	211,226	164,300	14,225	22,253	10,531	211,309
2023/24	167,863	15,405	22,736	11,405	217,409	167,989	15,405	22,753	11,405	217,551
2024/25	170,540	16,585	23,098	12,279	222,502	171,342	16,585	23,207	12,279	223,412
2025/26	173,712	16,765	23,528	12,309	226,314	175,732	16,968	23,801	12,457	228,959
2026/27	177,346	16,765	24,020	12,309	230,440	180,466	17,302	24,442	12,699	234,909
2027/28	180,677	16,765	24,471	12,309	234,222	184,626	17,636	25,006	12,941	240,209
2028/29	183,280	16,765	24,824	12,309	237,178	187,844	17,971	25,442	13,182	244,439
2029/30	185,022	16,765	25,060	12,309	239,156	190,029	18,305	25,738	13,424	247,496
2030/31	185,462	16,765	25,119	12,309	239,655	190,754	18,639	25,836	13,666	248,895
2031/32	185,403	16,765	25,111	12,309	239,588	190,897	18,973	25,855	13,908	249,633

5. Methodology

5.1 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 2020 were matched with entrants to third level institutions in the following September (2020) to determine the proportion of pupils that transfer directly to third level. Post-primary pupils from the preceding four years (2015 – 2019) were 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 2020/21 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 2020/21 (Tab 8).

Table 8 The results of the matching exercise are as follows:

Final year second level	Percentage who entered third level in September 2020
June 2020	51.88
June 2019	9.92
June 2018	2.58
June 2017	1.11
June 2016	0.59

Adding these results together indicated that 66.1% of final year second level cohort were transferred to a HEA third level institution before reaching the mature student age in 2020.

5.2 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 [3]. For example in 2020 there were new 302 entrants aged 25 representing 0.5 per cent of all 25 year olds; applying this ratio to the projected number of 25 year olds in 2025 gives 345 new entrants.

The total number of mature undergraduate new entrants for randomly selected years is shown in Table 9.

Table 9 Mature entrants to undergraduate programme

Year	2020	2025	2030	2035	2040
Mature Irish Entrants	2,956	3,164	3,340	3,615	3,636

5.3 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

$Stock_t$ = total National students enrolment in full time undergraduate courses at
Higher Education in year t

$Stock_{t+1}$ = total National students enrolment in full time undergraduate courses
at Higher Education in year $t+1$

And $Entrants_{t+1}$ = total intake to full time National students undergraduate
courses at Higher Education in year $t+1$

As an example, from 2019/20 to 2020/21 academic year, the ROUT is calculated as follows:

Stock 2020: 153,410

Entrants 2020: 43,552

Stock 2019: 147,530

ROUT = $(153,410 - 43,552) / 147,530$

This gives a rate for the sector as a whole of just over 74.5 per cent. This is an improvement on the 2017 ROUT (used in the previous report) which stood at 72.3. The coefficient (74.5%) is carried throughout the model.

5.4 Postgraduate enrolments

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

In recent years there has been a gradual increase in the proportion of postgraduate enrolments among Irish students rising from 9.9 per cent in 2018 to 11.9 per cent in 2020. In 2020 the International postgraduate students represented 42.5% of total International enrolments. These figures of 11.9 per cent for National and 42.5% for International post-graduate students' enrolments are carried throughout the model.

Appendix A: Comparison with previous projections

The choice of underlying demographic data on projected females, which feeds into births and enrolments at all levels, has been changed since the last set of third level projections in 2018. The input data is now taken from the M1F2 CSO scenario (high migration and falling fertility) rather M2F1 (medium migration / high fertility); this has resulted in a higher number of births, and schools enrolments, than the 2018 set of projections. As a result, the post-primary enrolments have increased, hence, the third level enrolments are higher in the long term. Estimates of mature students are also now based on M1F2 CSO population projections.

Table 10 shows total actual enrolment for 2018-2020 at third level compared to the projected enrolments under moderate scenario S1 (moderate) and gives the percentage error for each year. As can be seen, the error is less than 1.0% for 2018 and 2019 and insignificant (0.3%) for 2020.

Table 10 Comparisons with 2018 projections

<i>Year</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>
<i>Actual Total enrolment</i>	185,474	189,904	196,005
<i>Most likely scenario (S1)</i>	186,890	191,324	196,609
<i>Difference</i>	1,416	1,420	604
<i>Percent error</i>	0.76%	0.75%	0.31%
<i>Of which</i>			
<i>Domestic -actual</i>	160,616	164,405	174,188
<i>Domestic -projected</i>	162,036	164,363	167,345
<i>Difference</i>	1,420	-42	-6,843
<i>Percent error</i>	0.88%	-0.03%	-3.93%
<i>International - actual</i>	24,858	25,499	21,817
<i>International - projected</i>	24,854	26,960	29,264
<i>Difference</i>	-4	1,461	7,447
<i>Percent error</i>	-0.01%	5.73%	34.14%

While the overall difference is less than 1 per cent for the years shown, the domestic / international split highlights the particular difficulties with 2020. As can be seen

domestic enrolments in 2020 were some 6,000 higher than projected while international students were some 6,000 lower. Clearly the pandemic impacted both aspects of enrolments, with the additional places feeding into higher enrolments of domestic students, and travel restrictions resulting in lower enrolments of non-EU students.

Appendix B: Expert group meeting

The purpose of the meeting (10/03/2022) was to allow discussion and agree on the main assumptions used in the new set of the Third level enrolment projections model, specifically:

- Transition rates;
- Mature students;
- International students (EU + Non-EU).

The full list of members can be found below:

1. Deirdre Cullen (DoE: Statistics Section) – Chair of the meeting
2. Trudy Duffy (DFHERIS: Evidence for Policy Unit)
3. Janice Lau (HEA: Statistics Unit)
4. Aileen Marron (HEA: International Section)
5. John McGeown (DFHERIS: Higher Education)
6. Cian McCarthy (DFHERIS: Evidence for Policy)
7. Eimear Ellis (DFHERIS: Higher Education - Policy & Research)
8. Ronan Broderick (DFHERIS: Evidence for Policy)
9. Violeta Moloney (DoE: Statistics Section)

References

- [1] <https://www.gov.ie/en/collection/projections/>
- [2] <https://hea.ie/statistics/data-for-download-and-visualisations/access-our-data/access-our-data-students/>
- [3] <https://www.cso.ie/en/databases/>
- [4] <https://www.cso.ie/en/releasesandpublications/ep/p-plfp/populationandlabourforceprojections2017-2051/>