



## **PROJECTIONS OF DEMAND FOR FULL TIME THIRD LEVEL EDUCATION, 2011 - 2026**

**July 2012**

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## Introduction

This document provides the latest set of projections of demand for full time places in third level educational institutions aided by the Department of Education and Skills for the period 2011-2026. It should be noted that these are projections of likely demand only for third level full time education in a particular year. Actual enrolments in each year may not always equate with projected demand, as demand is constantly fluctuating in response to the changing economic situation and resulting shifts in students' options and preferences. The 2012 projections release differs from previous years in that it has been split into two separate releases. A separate release on first and second level projections is available. This release discusses third level full time projections only.

In addition to the change in format of the release, the methodology for producing the projections has been reviewed, and the underlying population data has been updated to take account of information now available from Census 2011.

These projections cover the next 15 years. For third level projections this timeframe is chosen as, unlike the first and second level projections, fertility factors do not generally play a role over the next 15 years in projecting entrants to third level, as future Irish entrants to third level education over the period 2011-2026 have already been born. Instead, the projected numbers are driven by likely demand for higher education services, and participation rates.

The numbers enrolled in higher education have been steadily increasing in recent years. A number of continuing pressures on higher education places will arise from:

- Increasing births since the mid-1990s
- The impact of recession and demand for further and higher education
- The increasing attractiveness of third level education as Ireland and other EU and OECD economies seek to move up the value chain in terms of the skills profile of their workforce.

Migration also is a factor when producing third level projections. Trends in migration of school-going aged children will have a cumulative effect on the underlying population available to take up third level education. As these projections follow directly from the recently published first and second level projections, the third level projections reflect the assumptions on migration that were made in the first and second level projections. The first and second level projections used a "best estimate" for migration in the years 2012/2013 to 2014/2015, rather than a number of different assumptions, and as the second level figures are then advanced forward one year and used as the basis for third level projections, it follows that there is just one projected figure also for third level for the period 2012/2013 to 2015/2016 inclusive. The median assumption, M1, is chosen as the most likely.

## Overview of Changes in Methodology

A number of changes have been made to the methodology and assumptions used in previous years, particularly when projecting new entrants to third level institutions. These changes were made as a result of a review of the third level projections model, a new technique allowing for more accurate calculation of third level entry rates, and emerging information on trends in enrolment and entry at third level.

The main proportion of entrants to third level education come directly from the second level system, with a further proportion entering third level within a few years of leaving second level education. For the first time in this iteration of the projections, a data matching exercise was carried out to arrive at an accurate transfer rate from second to third level education, for those students that had not yet reached the mature student age (those aged 23 or more prior to entering a full time undergraduate course). This allows us to have a single transfer rate for students under 23 from second level to the third level system. This approach represents a significant improvement over the previous method, as it allows an actual transfer rate to be included rather than an estimated figure, and replaces the requirement for further assumptions to be made on migration, and proportions of direct and late entrants.

Mature entrants are those that are over 23 years of age when entering third level education, and were previously calculated as a proportion of the overall projected enrolment. In the updated model, mature entrants are calculated as a proportion of the underlying projected population of those aged 23 and over. The application of this new method has significantly reduced the numbers of mature students projected over the period 2011-2026, when compared with previous projections.

International entrant projections were previously calculated as a proportion of the overall projected enrolment. Developments in other countries, however, are just as likely to impact on these numbers as developments in Irish policy. In the updated model, therefore, international student numbers are projected using recent trend data, rather than as a proportion of overall enrolments.

## Projected Demand for Full Time Aided Places at Third Level, 2011-2026

The projected demand for full time third level education over the period 2011-2026 is shown in Table 1 below, under each of the migration assumptions M0, M1 and M2, where

**M0** indicates that net outward migration at post primary level will increase gradually to a combined level of -4500 by 2020 and remain at that level from that point.

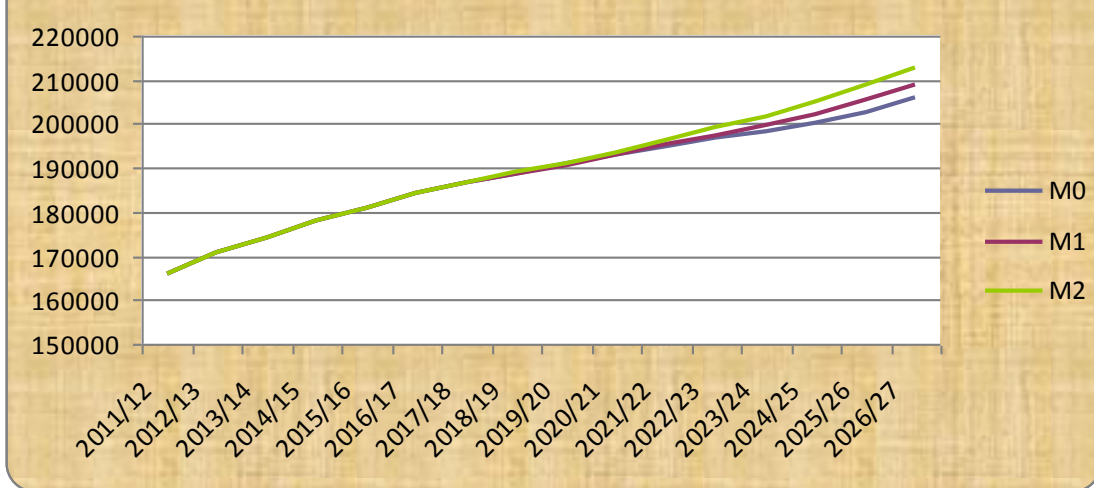
**M1** indicates that net migration at primary and post primary level will stabilize at 0 from 2015 onwards.

**M2** indicates a return to significant net inward migration by 2016, with net inward migration at around 5000 by 2020.

<b>Table 1: Projections of Full Time Demand for Education in DES-Aided Third Level Institutions, 2011-2026</b>			
	<b>M0-Net outward migration increasing gradually</b>	<b>M1-Net migration stabilising at 0</b>	<b>M2-Return to net inward migration by 2016</b>
<b>2011/12</b>		166163	
<b>2012/13</b>		170607	
<b>2013/14</b>		173907	
<b>2014/15</b>		177768	
<b>2015/16</b>		181126	
<b>2016/17</b>	184317	184339	184253
<b>2017/18</b>	186886	186852	186814
<b>2018/19</b>	188850	188782	188862
<b>2019/20</b>	190860	190785	191117
<b>2020/21</b>	192955	192948	193662
<b>2021/22</b>	195056	195290	196428
<b>2022/23</b>	196861	197551	199125
<b>2023/24</b>	198153	199607	201678
<b>2024/25</b>	200225	202285	204884
<b>2025/26</b>	202736	205370	208932
<b>2026/27</b>	205902	208961	212745

For the years up to 2015/2016 inclusive, a single figure is shown for projections of demand, this follows directly from the use of a “best estimate” of migration for the years 2012/2013 to 2014/2015 in the projections of second level enrolments, as these data are then used as the baseline for projections at third level.

**Figure A: Projected Demand for Full Time DES-Aided Third Level Education, 2011-2026**



The following points should be noted:

- Focussing on the immediate four years ahead, full time enrolment is projected to increase by approximately 15,000 by 2015.

- Beyond 2016, under all migration scenarios, the demand for third level full time education is projected to increase to between 205,000 and 210,000 by 2026/2027, depending on the migration assumption chosen. This is a direct result of increases in births, and the relevant underlying population. Under the median preferred assumption, M1, enrolments will reach 208,961 by 2026/2027.

- These figures show a significant reduction in the projected demand for third level education, when compared with the projections published in 2011. This is due both to a revision in methodology, and new information showing a moderation of some previous trends.

## Projection of Entrants to Third Level Education

The projection of entrants to third level education involves three separate components:

- 1) Calculation of a transfer rate from second to third level education.
- 2) Projection of numbers of mature entrants.
- 3) Projection of numbers of international students.

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

In order to arrive at an accurate rate of transfer of non-mature students from second to third level, a data matching exercise was conducted to estimate the proportion of final year second level students that transfer to third level in the ensuing 5 years.

The data matching exercise was conducted using Higher Education Authority 2010\2011 Student Records System data for entrants to third level HEA institutions, and second level final year data from the Department of Education and Skills Post Primary Pupils' Database for the previous 5 academic years.

The results of the matching exercise are as follows:

- **43.7%** of the 2009/2010 final year second level cohort were new entrants to third level in 2010/2011

- **10.9%** of the 2008/2009 final year second level cohort were new entrants to third level in 2010/2011

- **3.1%** of the 2007/2008 final year second level cohort were new entrants to third level in 2010/2011

- **2.1%** of the 2006/2007 final year second level cohort were new entrants to third level in 2010/2011

- **2.1%** of the 2005/2006 final year second level cohort were new entrants to third level in 2010/2011

Adding these results together implies that, if similar trends were to continue for future years, approximately 62% of any final year second level cohort will transfer to a HEA funded third level institution before reaching the mature student age of 23.

An extra adjustment is also made to take account of those who enter institutions that are aided by the Department of Education and Skills but not those funded by the Higher Education Authority- namely The National College of Ireland, the Pontifical College, Milltown Institute and the non-HEA funded teacher training institutions (CICE, Marino College and Froebel College). This adjustment is of the order of 1.5%, which gives a total estimated transfer rate from second to third level of approximately 63.5% in 2010/2011, in other words, 63.5% of final year second level students in any given year are likely to make the transfer to publicly-aided third level institutions before the age of 23.

For the purposes of the projections, the path taken to third level education is irrelevant when calculating the transfer rate from second to third level. Students who do not



make the transfer directly to third level may repeat the Leaving Certificate to get more points, pursue a Post-Leaving Certificate course, enter employment, be unemployed for a period of time, or travel abroad for a “gap year” before entering the third level system. Whichever path is taken to third level, this data matching exercise ensures that students who enter third level before the age of 23 after a period of other activity, are included in the transfer rate for projections purposes.

### **Mature Entrants**

A significant proportion of entrants into the third level sector are mature entrants. These are entrants which are over the age of 23. Applicants over the age of 23 are entitled to be assessed for financial supports independently of their parents, and therefore the data shows a surge in entrants to third level at the age of 23 and 24, with a gradual levelling off after those ages.

In recent years the numbers of mature students were on the increase, possibly as the lack of employment opportunities in some sectors has made returning to third level education a more attractive prospect, and because unemployment supports allow for a return to education while retaining benefits. Preliminary analysis of the most recent data available suggests that possibly this increase has now levelled off, and given that the surge was most likely in response to a particular economic shock, it seems that the most likely scenario going forward will be either a retention of mature entrants at the same proportion of the underlying population, or a very slight decrease.

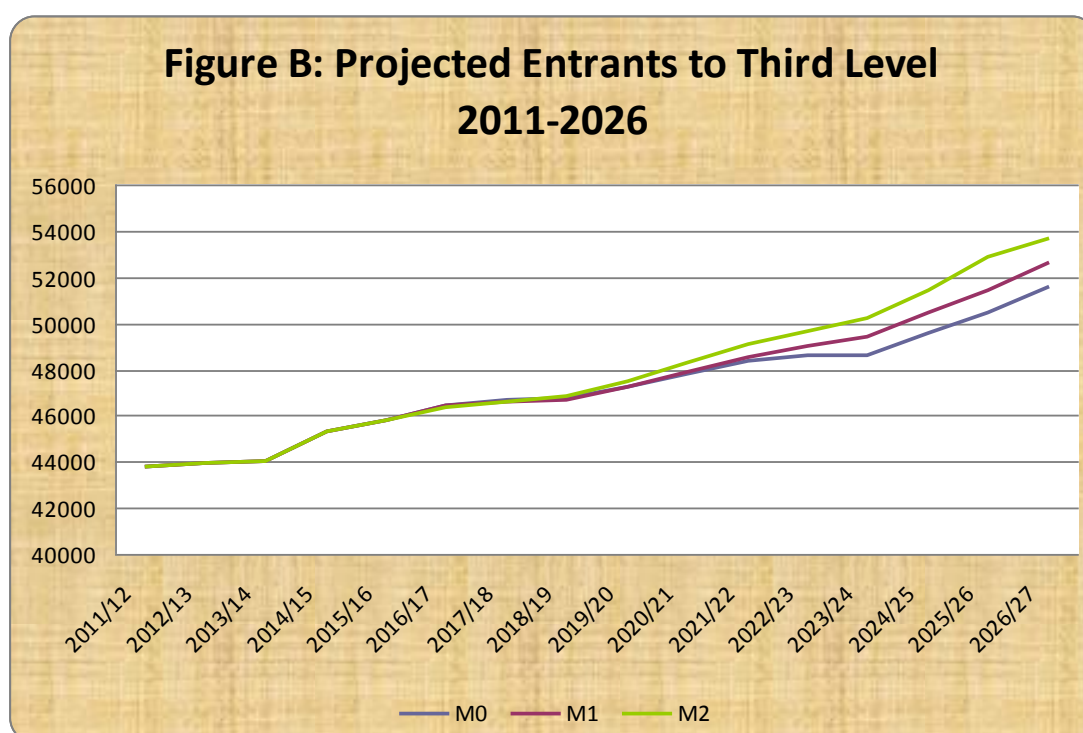
### **International Students**

Trends in international student entrants, particularly those from non-EU countries are, in general, not dictated by Ireland’s economic or demographic profile of the moment, but rather by events and policies in their home countries. Ireland has seen a gradual increase in international students in recent years. Given that many, if not all, third level Irish institutions are working to attract a larger number of international students to their campuses; an assumption for the purposes of this model that the numbers of international students will slightly increase over time.

## Projections of New Entrants to Third Level, 2011-2026

Based on the factors considered above, the following Table shows the projected third level entrants under each migration assumption, M0, M1 and M2.

<b>Table 2: Projections of New Entrants to Third Level , 2011-2026</b>			
	<b>M0-Net outward migration increasing gradually</b>	<b>M1-Net migration stabilising at 0</b>	<b>M2-Return to net inward migration by 2016</b>
<b>2011/12</b>	43818		
<b>2012/13</b>	43910		
<b>2013/14</b>	43985		
<b>2014/15</b>	45269		
<b>2015/16</b>	45762		
<b>2016/17</b>	46426	46445	46370
<b>2017/18</b>	46653	46611	46631
<b>2018/19</b>	46746	46708	46802
<b>2019/20</b>	47260	47238	47475
<b>2020/21</b>	47818	47859	48272
<b>2021/22</b>	48328	48536	49077
<b>2022/23</b>	48577	49030	49683
<b>2023/24</b>	48566	49396	50208
<b>2024/25</b>	49556	50434	51392
<b>2025/26</b>	50436	51432	52896
<b>2026/27</b>	51612	52617	53668



Under all migration scenarios, the numbers entering third level are projected to rise continuously between 2011 and 2026. This is a direct result of the underlying demographic profile of the population, following on from the increases in the number of births and the population under the age of 18 in recent years.

### **Rate of Undergraduate Turnover (ROUT)**

In addition to projecting the number of entrants, a projection needs to be made of the likely level of continuing enrolments. The rate of undergraduate turnover is the proportion of total Higher Education enrolment which is “turned over” into the following academic year. 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 enrolment in full time undergraduate courses at Higher Education in year T

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

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

This measure gives an indication of those who continue each year in higher education. If one takes the total stock enrolment in one year, then those remaining the following year are those that have not either graduated, or dropped out of college. Although no analysis is made of the proportion of graduates and dropouts each year, the ROUT gives an implied figure for combined turnover in the sector year-on-year due to both graduation and dropout.

The latest data available, from 2009/2010 to 2010/2011 academic year shows a rate of undergraduate turnover for the sector as a whole of **72.3%**. In the preceding few years, the ROUT has also been at or around this level, and so a ROUT of 72.3% is used throughout the third level projections model.

### **Postgraduate Enrolments**

The final component in the third level projections model is a projection of postgraduate enrolments as a proportion of total full time enrolment.

In recent years there has been a gradual increase in the proportion of postgraduate enrolments, from 12.5% of total full time enrolment in 2005/2006 to a peak of 14.5% in 2009/2010. The proportion of postgraduate enrolments fell to 13.7% in 2010/2011, as undergraduate enrolments increased while postgraduate numbers remained flat. Initial evidence from 2011/2012 shows a continued levelling off of the increase seen in recent years. For the purposes of the projections, an average rate of 13% is assumed for the proportion of postgraduate enrolments over the period 2011-2026.

## Comparison with Previous Projections

The following table shows the third level projections, as published in June 2011.

	<b>M5F5</b>	<b>M4F4</b>	<b>M3F3</b>
2011	170,300	170,300	170,300
2012	176,600	176,600	176,600
2013	183,200	183,200	183,100
2014	190,500	190,400	190,200
2015	198,700	198,300	197,800
2016	207,000	206,300	205,600
2017	214,700	213,500	212,600
2018	221,300	219,600	218,300
2019	228,300	226,100	224,500
2020	235,800	233,100	231,400
2021	243,600	240,400	238,400
2022	251,300	247,600	245,300
2023	256,500	252,400	249,800
2024	261,400	257,100	254,300
2025	268,600	264,400	261,700
2026	277,400	273,400	270,900
2027	285,300	281,600	279,400
2028	290,900	287,400	284,900
2029	294,300	290,500	285,600
2030	295,700	291,100	282,100
2031	296,100	289,900	276,100

The current set of projections differs significantly from previous projections. The median scenario in the previously published projections shows a projected figure for full time aided third level of just over 198,000 by 2015 rising to 273,500 by 2026, while the median scenario in the updated projections model indicates a demand for places just over 181,000 in 2015 rising to almost 209,000 in 2026. A number of factors play a part in the change in projections:

- 1) The data matching exercise employed for calculating the transfer rate from second to third level has resulted in a slightly lower projection of combined direct and late entrants into third level education.
- 2) A shift to projecting mature students using the underlying population as a basis has led to a significant decrease in the projected numbers of mature students.
- 3) New information showing a levelling off of the proportions in postgraduate education has led to a reduction in the projected proportion of postgraduate students.
- 4) International student projections have been revised, using recent trend data. This has led to a reduction in the projected numbers of international students,

previously the numbers were calculated as a proportion of overall enrolments and had risen as enrolments were rising.

- 5) Changes to the data in any particular year have a compound effect on data in subsequent years, due to the use of the Rate of Undergraduate Turnover (ROUT) in projecting year on year figures.

## Appendix A-Supplementary Information

**Table A1: Net Migration scenarios for School Aged Cohort used in projections of Demand at Third Level**

Year	M0		M1		M2	
	Net outward migration significantly increasing		Net migration stabilising around 0		Return from 2016 to net inward migration	
	Primary	Post-primary	Primary	Post Primary	Primary	Post-primary
2012	-1000	1800	-1000	1800	-1000	1800
2013	-1500	1300	-1500	1300	-1500	1300
2014	-1000	800	-1000	800	-1000	800
2015	-1500	300	0	0	-500	1200
2016	-2000	-200	0	0	0	1600
2017	-2500	-700	0	0	500	2000
2018	-2500	-1200	0	0	1000	2400
2019	-2500	-1700	0	0	1500	2800
2020	-2500	-2000	0	0	2000	3200
2021	-2500	-2000	0	0	2500	3600
2022	-2500	-2000	0	0	3000	3600
2023	-2500	-2000	0	0	3500	3600
2024 on	-2500	-2000	0	0	4000	3600