



February 2010

PROJECTIONS OF FULL TIME ENROLMENT

In teaching institutions aided by the Department of Education and Science

At Primary, Second and Higher level, 2009 - 2030

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Overview

This document updates a previous set of projections of enrolment released in [December 2008](#). As in the previous document, the projections draw on the most recent projections made by the Central Statistics Office [Population and Labour Force Projections, 2011-2041](#) (CSO, 2008). In their projections, the CSO provided six alternative scenarios combining different sets of assumptions on fertility and migration. Since the CSO published these projections a number of important economic, social and demographic changes have occurred. One of these includes a likely resumption in net outward migration for the population as a whole in the year ending March 2010. The extent and age-distribution of this migration remains unclear at this point in time. The number of births recorded in 2008 and the first half of 2009 considerably exceeded the numbers projected by the CSO in early 2008 under any of the six scenarios provided by them.

Given the uncertainties surrounding migration and fertility, any projection of enrolment into the future is conditional on the set of assumptions made. In this document, a limited number of scenarios are used and, among these, one particular set is adopted for reasons that will be explained below. For a detailed description of the various assumptions underlying alternative scenarios please refer to the Background Notes at the end of this Document.

The results are presented in the document by level and under various scenarios. For reasons that are explained below, the following set of assumptions provides the main basis for projections into the future:

- Zero net *migration* (M0) for the population as a whole and for each age-group within the population
- *Fertility* rates stabilising at a rate of 2.0 children per woman (F1*)
- Further increases in the rate of *retention* to Leaving Certificate from 83% in 2008 to 85% by 2012 and remaining constant thereafter (S2)
- Stability in some of the underlying factors explaining *Higher Education* enrolment (no change in the *Leaving Certificate Entry Rate*, a constant *Rate of Undergraduate Turnover* further increases in the proportion of mature students and a faster growth in the number of postgraduate students and under-graduate entrants from outside the State).

The resulting projections over the coming two academic-years are presented in the following summary table, along with estimated figures for 2009/10 based on early returns.

Table A: Projected Full Time Enrolment by Level for the next three years

in teaching institutions aided by the Department of Education and Science

Year	Primary	Second Level (excluding PLCs)	PLCs	Second Level (including PLCs)	Third Level
2009/10	505,600	312,100	38,500	350,600	155,100
2010/11	510,300	314,300	38,500	352,800	161,800
2011/12	517,200	316,400	38,500	354,900	167,300

F1*, S2 and T2

Introduction

A projection is not a forecast. Projections are made on the basis of particular assumptions. These assumptions are based on past trends and patterns combined with a view of possible shifts into the future. By contrast, a forecasting model would take account of many important variables including trends in unemployment, migration, patterns of family formation, capacity to accommodate additional students and demand for continuing or second-chance education and would incorporate these into a complex, quantitative, explanatory forecasting model.

Previous experience of working with projections have shown that short-term trends in both migration and fertility remain volatile and difficult to predict – not least because of uncertainties about the direction of future economic and social change as well as their relationship to patterns of social behaviour. Nevertheless, even if future births and migration patterns are at variance from those projected, the high level of actual births experienced in 2007, and particularly in 2008, will impact on enrolment at Primary Level in the near future.

It should be noted that the recently published (as of September 2009) [Population and Migrations Estimates](#) for the year ending April 2009 (CSO, 2009) show a return to net outward migration for Ireland for the first time since 1995. However, against the trend for the population as a whole, the figure for the 0 to 14 age group continues to show net inward migration, albeit at much lower levels than in previous years.

A wide range of possible changes needs to be considered. However, for the purposes of this document, a particular set of assumptions is adopted as the main basis for projections into the future taking account of:

- the available demographic projections scenarios provided by the CSO in early 2008¹
- subsequent changes in births and migration since mid-2008
- what may be considered a plausible or working set of assumptions pending further information and modification of conditions.

Based on the available evidence, a plausible scenario going forward, consistent with one of the CSO projection scenarios, is a continuing high level of fertility (F1*) combined with zero net migration (M0) in the overall population. F1* corresponds to the 2007 level of Fertility (=2.0) and is close to F1 or the 2006 level (=1.9) used by the CSO in their 2008 projections release. Projections at all levels are presented under this M0F1* scenario. *See tables 1, 2, 2a and 3.*

Alternatively, projections of enrolment are also presented based on a continuing high level of births (F1*), zero net migration for families with children in the year-ending March 2010 followed by modest net outward migration of families with children over the period 2011 to 2014 (M-1). This newly created scenario, (referred to as M-1) was not considered in the preparations of the Central Statistics Office [Population and Labour Force Projections, 2011-2041](#) (CSO, 2008). Reflecting assumptions made in the [December 2008](#) release of projections by this Department, an alternative scenario combining high fertility (F1*) and continuing inward migration (M2) is also presented in this document.

¹ These have not been updated since April 2008. However, CSO continues to publish, on an annual basis, estimates of migration (See [Population and Migration Estimates](#) referred to above).

Primary Level

Table 1 provides a summary of projected enrolment for all National Schools (including Special Schools) for each academic year to 2030/2031. Historical data back to 2000 are presented for reference. In line with rising births since the mid-1990s, enrolment has been increasing significantly since the early part of this decade. This is projected to continue into the next decade – even if outward migration were to resume among families.

The projected figure for total enrolment at Primary Level for 2010/11 under the M0F1* assumption is over 510,000 (up on the provisional enrolment estimate of 505,600 in 2009/10). Going forward under this assumption, enrolment at Primary Level would grow by 9.3% over the next 5 years (from 2009/10 to 2014/15). Under this scenario, enrolment at Primary Level will not fall to below the 2009/10 level until 2026/27. *See table 1 and graph 1.*

Three scenarios are presented – all them based on continuing high levels of fertility². Three different assumptions are made with regard to net migration (of children aged 0-12):

- Net outward migration for the next four years followed by zero migration thereafter (M-1) – not envisaged in the latest CSO projections (April 2008)
- Zero migration for the entire period of the projection (M0 in the latest CSO projections)
- Net inward migration (M2 in the latest CSO projections).

Of the three migration scenarios, M0 is chosen as the main or preferred scenario. This choice is guided by the following considerations:

- Early statistical returns from primary schools indicate approximately equal numbers of children leaving or joining schools as a result of family migration
- The return to net outward migration in the population as a whole appears to be heavily concentrated in particular age-groups other than the under-15's. The implication is that family migration is slower to respond to economic and labour market shifts
- A return to net inward migration seems unlikely for the foreseeable future.

It should be noted that an exceptionally high figure of 75,065 for registered births was recorded in 2008³. This follows a high number of births registered in 2007. Data for the first half of 2009 also show a continuing high level of births. These high numbers of births have consequences for enrolment in Junior Infant classes in 2011, 2012 and 2013 and beyond.

² Although F1* corresponding to 2.0 is used as an assumption the actual rate of fertility was 2.1 in 2008.

³ This was the highest number recorded since the year 1896 when 75,332 births were recorded in the 26 counties area.

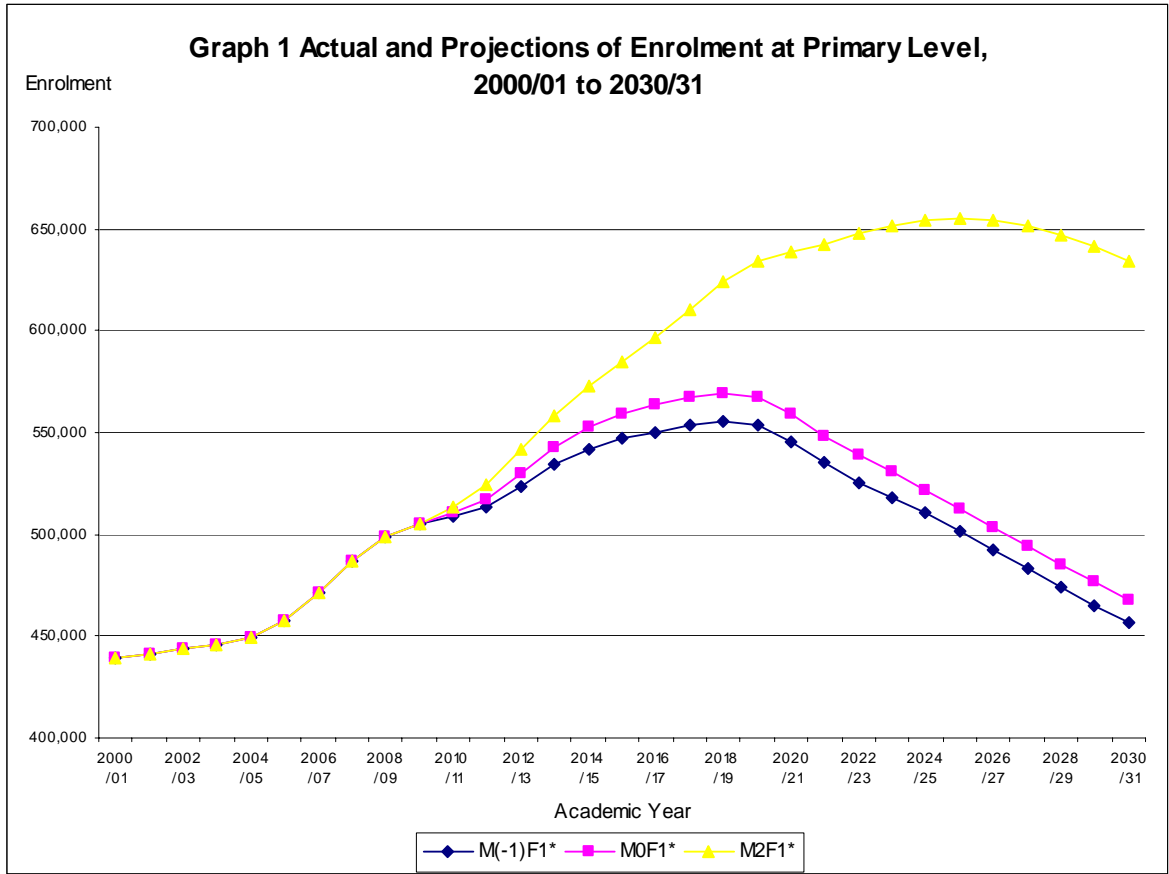


Table 1 Actual and Projected Enrolment in Primary Schools

(All aided primary schools including Special Education but excluding Early Start classes)

Year	(M-1)F1*[^]	M0F1*	M2F1*
2000/01		439,560	
2001/02		441,065	
2002/03		443,720	
2003/04		446,029	
2004/05		449,298	
2005/06		457,889	
2006/07		471,519	
2007/08		486,444	
2008/09		498,914	
2009/10		505,600 ^P	
2010/11	508,600	510,300	513,400
2011/12	513,200	517,200	524,800
2012/13	523,500	529,800	541,500
2013/14	534,600	543,100	558,600
2014/15	541,800	552,700	572,500
2015/16	547,000	559,100	585,000
2016/17	549,800	563,300	596,900
2017/18	553,400	567,300	610,400
2018/19	555,900	569,600	623,800
2019/20	553,500	567,100	633,700
2020/21	545,600	559,000	639,100
2021/22	535,000	548,500	642,800
2022/23	525,500	539,000	647,400
2023/24	518,000	530,500	651,700
2024/25	510,500	521,700	654,300
2025/26	501,800	512,700	654,900
2026/27	492,500	503,700	653,800
2027/28	483,200	494,500	651,100
2028/29	473,900	485,500	646,800
2029/30	464,900	476,500	641,200
2030/31	456,300	467,900	634,200

[^] M(-1)F1 - continuing high level of births combined with modest outward migration in 2011 to 2014

^P Provisional

Second Level

Second Level includes all Junior and Leaving Certificate course students in DES-aided schools and colleges. Post Leaving Certificate programme students in Further Education are shown, in this document, separately.

Enrolment has been increasing at Second Level (excluding PLCs) since 2006 in line with increasing births coupled with the impact of immigration over the last 15 years. This pattern of growth is projected into the coming decade on the assumption of zero net migration (M0), high Fertility (F1*) and growth in school retention (S2). The total at Second Level is projected to grow by 3.8% in the five years from 2009/10 to 2014/15. *See table 2 and graph 2.*

The estimated rate of retention to Leaving Certificate is a major determinant of the projections of enrolment. For the school-year 2008/2009, it is estimated that over 83% of entrants to first year of Junior Cycle would complete Leaving Certificate, eventually, if the rates of drop-out and progression prevailing in that year were sustained. However, it should be noted that this estimate is based on a limited measure of Second Level completion. It omits important educational pathways outside the mainstream school senior cycle such as Youthreach and apprenticeship training (without Leaving Certificate). It also omits a number of 'external' Leaving Certificate Examination students who leave aided schools to complete Second Level in non-aided Second Level colleges.

Two scenarios are allowed for:

- A rise in retention to reach 85% (or 90% when alternative educational pathways are factored in) by 2012 and remaining constant thereafter (S2)
- An increase in the rate to 85% by 2012 and 90% (or 95% using an inclusive measure) by 2016 and remaining constant thereafter (S3).

Of these, S2 is chosen as the main or preferred scenario. This choice is guided by historical trends which are upwards – refer to [Retention Rates of Pupils in Second Level Schools, 1999 to 2001 entry cohorts](#) (DES, 2009) and takes account of the very recent increases in retention at Second Level as students may be less inclined to leave school early given conditions in the labour market.

Table 2 Actual and Projected Enrolment at Second Level[^] excluding PLCs

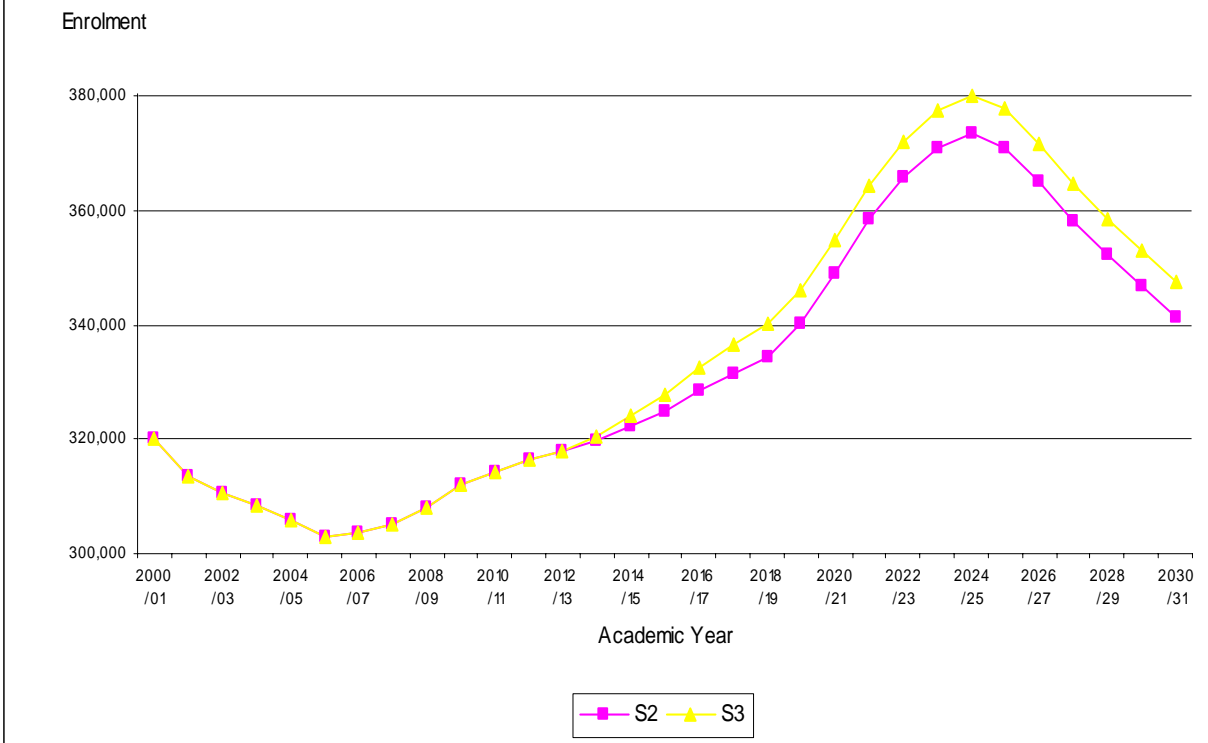
(assuming scenarios M0 and F1*)

Year	S2	S3
	<i>Retention Rate increases to 85% by 2012 and constant thereafter (roughly equivalent to 90%)</i>	<i>Retention Rate increases to 85% by 2012 and 90% by 2016 and constant thereafter (roughly equivalent to 95% after 2016)</i>
2000/01	319,974	
2001/02	313,393	
2002/03	310,582	
2003/04	308,318	
2004/05	305,808	
2005/06	303,031	
2006/07	303,524	
2007/08	305,156	
2008/09	307,944	
2009/10	312,200 ^P	
2010/11	314,300	314,300
2011/12	316,400	316,400
2012/13	317,800	317,800
2013/14	319,700	320,400
2014/15	322,500	324,300
2015/16	325,100	328,000
2016/17	328,700	332,700
2017/18	331,500	336,600
2018/19	334,500	340,300
2019/20	340,100	346,100
2020/21	349,000	355,000
2021/22	358,500	364,500
2022/23	365,800	371,900
2023/24	371,100	377,400
2024/25	373,400	380,000
2025/26	371,000	377,900
2026/27	365,100	371,800
2027/28	358,300	364,900
2028/29	352,200	358,700
2029/30	346,800	353,200
2030/31	341,500	347,700

[^] Excludes students enrolled on Core VTOS programmes

^P Provisional

Graph 2 Actual and Projections of Enrolment at Second Level (excluding PLCs), 2000/01 to 2030/31 (Scenario M0F1*)



Further Education (Post Leaving Certificate courses)

Given the age profile, level and educational composition of Post Leaving Certificate students as well as the separate administrative arrangements for PLC courses, it is appropriate to classify enrolment separately to that of Second Level education. PLC students follow courses in Further Education colleges as well as all types of Second Level schools.

Underlying the projections in table 2a below, are M0, F1* and S2.

On 30th September 2008 33,368 students were enrolled in PLC courses, which was 10% above approved numbers. Providers catered for these numbers within existing resource allocations. An additional 1,500 PLC places have been made available for the 2009/2010 academic year. The extra allocation means that the total number of PLC places allocated for the 2009/2010 academic year is 31,688. However, early indications based on statistical returns are for an increase in the actual number of places provided to 38,500 in 2009/10. *See table 2a.* Clearly, there is a pattern of increased demand for PLC places in response to economic conditions. The future trend in PLC take-up and provision is unclear. The assumption made in regard to future trends (that enrolment will stay at the level of 38,500 until 2013/14) is a technical assumption.

**Table 2a Actual and Projected
Enrolment in PLCs in Post
Primary Schools**

(assuming scenarios M0, F1 and S2)*

Year	Total
2000/01	25,410
2001/02	26,685
2002/03	28,649
2003/04	29,533
2004/05	29,354
2005/06	29,376
2006/07	30,189
2007/08	29,967
2008/09	33,368
2009/10	38,500 ^p
2010/11	38,500
2011/12	38,500
2012/13	38,500
2013/14	38,500

^p Provisional

Higher Education

The assumptions underlying Higher Education, in this document, are technical rather than statements of future policy or provision. Under T2 – the main or preferred scenario – enrolment is expected to increase by a further 50,000 over the coming decade. *See table 3.*

Relative to projections made at Primary and Second Level, projections at Higher Level are less directly impacted by demographic change. Even though births declined throughout the 1980s and early 1990s, intake to, and enrolment in higher education increased very significantly in every year up to the present. This was achieved through a number of channels including additional ‘mature students’ (those aged 23 or more on 1 January prior to entering a full-time undergraduate course) and rising proportions of Leaving Certificate cohorts entering higher education.

A number of new pressures on Higher Education places arise from:

- Increasing births since the mid-1990s
- The impact of recession and demand for further and higher education
- The competition for skills and higher education graduates internationally as economies trade up the value chain.

In projecting numbers of full-time students at Higher Education, the following factors are taken into account:

- The estimated numbers sitting the Leaving Certificate as School candidates for the *last* time (total School candidates excluding Leaving Certificate Applied and net of projected Leaving Certificate repeats in the following year)
- The proportion of such Leaving Certificate candidates entering full time undergraduate courses at Higher Education. This is referred to as the *Leaving Certificate Entry Rate* (LCER) and should not be confused with the *First-Time Admissions Rate* (defined as the estimated proportion of today’s 18 year olds who will enter full-time undergraduate programmes whether as mature students or transfers from Leaving Certificate in higher education in the State at current rates of intake)⁴
- The proportions of ‘mature’, ‘direct’, ‘late’ and ‘out-of-State’ entrants in any year
- The proportion of total enrolment at Higher Level ‘turned over’ into the following year. This is referred to as the *Rate of Undergraduate Turnover* (ROUT). For further details see Background Notes
- The proportion of postgraduate students in total full time enrolment.

⁴ The estimated Rate of First-Time Admissions has gone from approximately 50% in 2004 to over 60% in 2008. In other words, 60% of 18 year olds can be expected to enter higher level at some stage. By contrast, the LCER is the measure of how many Leaving Cert candidates will transfer to higher level immediately after, or soon after, sitting the exam. This measure has increased from about 60% in 2004 to 70% in 2008.

The number of new entrants to full time undergraduate courses at Higher Level increased by nearly 3,000 in 2008/09. This raised the Leaving Certificate Entry Rate to just over 70% in 2008/09, which compares to 66% in 2007/08 and 67% in 2006/07.

Two scenarios are presented in table 3. Each is based on a continuing high level of births (F1*), zero net migration (M0) combined with assumed increase in retention at Second Level to 85% in 2012 (S2) and a number of other factors as outlined below and in the background notes.

T2 provides a plausible scenario in which LCER increases to 73% in 2009/2010 and then holds this level into the future (with further increases viewed as possible but less likely). This scenario is based on

- a constant LCER (at the estimated 2009/10 level)
- no changes in the ROUT
- further increases in the proportion of mature students from its current level of 13% (to reach, respectively, 19% by 2016 and 25% by 2022) in keeping with previous targets as recommend in the *Third Level Points Commission*⁵
- a faster growth in the number of postgraduate students and under-graduate entrants from outside the State⁶.

Under this Scenario, projected enrolment reaches a level of over 182,000 in 2014/15 and over 200,000 full time students by 2018/19.

Scenario T3 differs from scenario T2 only by virtue of an increasing LCER under T3⁷. Under T3, projected enrolment rises to over 192,000 in 2014/15 and over 200,000 full time students by 2016/17.

⁵ Proportions of ‘mature’ students among entrants to full-time undergraduate courses remain low, here, by international standards.

⁶ There is further scope for increases in students from the EU and further afield.

⁷ The LCER increases from its current level of 70% to 80% by the year 2017.

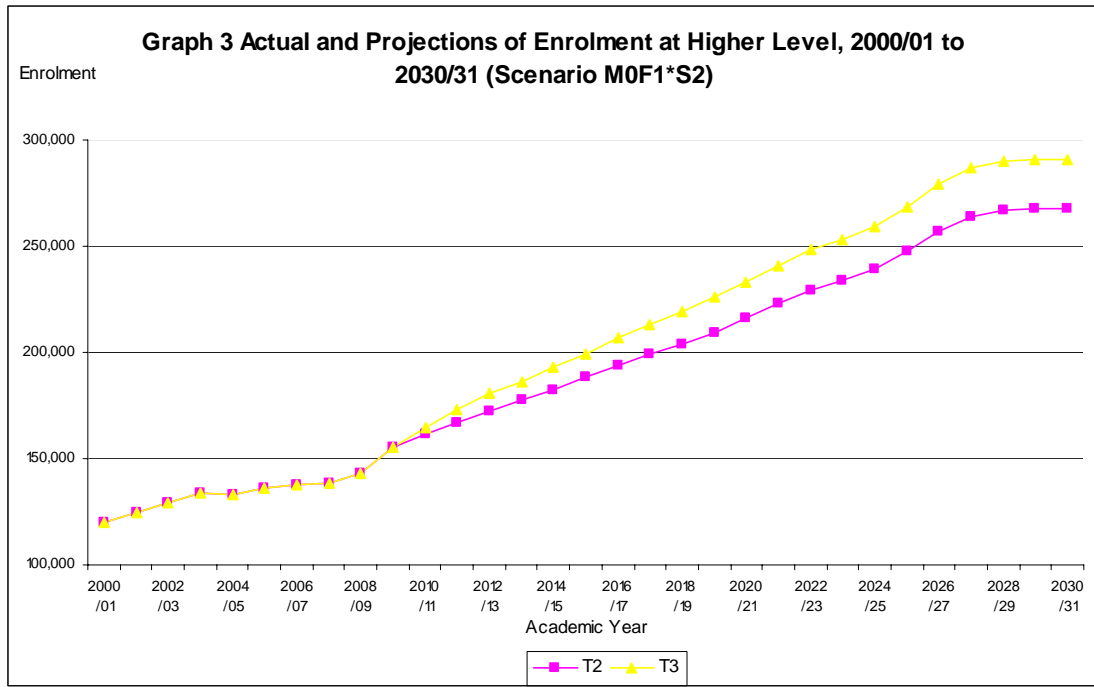


Table 3 Projected Full Time Enrolment at Higher Level*(assuming scenarios M0, F1* and S2)*

Year	T2	T3
2000/01	119,637 ^R	
2001/02	124,233 ^R	
2002/03	128,939 ^R	
2003/04	133,554 ^R	
2004/05	133,359 ^R	
2005/06	136,372 ^R	
2006/07	138,013 ^R	
2007/08	138,805 ^R	
2008/09	145,741	
2009/10	155,100	155,100
2010/11	161,800	164,600
2011/12	167,300	172,800
2012/13	172,400	180,800
2013/14	177,400	186,500
2014/15	182,700	192,800
2015/16	188,200	199,300
2016/17	193,900	206,800
2017/18	199,100	213,400
2018/19	203,800	219,200
2019/20	209,500	225,900
2020/21	215,900	233,300
2021/22	222,900	241,100
2022/23	229,300	248,300
2023/24	233,800	253,400
2024/25	239,200	259,400
2025/26	247,600	268,700
2026/27	257,100	279,100
2027/28	264,000	286,700
2028/29	267,200	290,200
2029/30	268,100	291,100
2030/31	267,800	290,900

^R Revised data

Background Notes

Assumptions underlying the projections model

The projections in this document are based on:

- The 2008/09 data on enrolment at all three levels.
- Early trends in the 2009/10 data on enrolment.
- Particular assumptions regarding fertility and migration contained in the Central Statistics Office *Population and Labour Force Projections, 2011-2041* (CSO, 2008). Some adjustments have been made to these to incorporate more recently available data on births and migration. *See section on Assumptions regarding Fertility and Migration below.*
- The projections at Second Level are also based on rates of completion up to Leaving Certificate level.
- The projections of Higher Education are based on a combination of factors described in more detail in the section on Higher Education. *See section on Higher Education below.*

Assumptions regarding Fertility and Migration

Total Period Fertility Rate

The *Total Period Fertility Rate* is a synthetic indicator of fertility at one point in time (a year) across all cohorts of women giving birth in that year. It shows the average expected number of children a woman would have by the age of 49 based on the current year's information on births and age of mothers.

Table B: Assumptions regarding the Total Period Fertility Rate (TPFR)

	Actual figure	F1	F1*	F2
2006	1.9	1.9	1.9	1.9
2007	2.0	1.9	2.0	..
2008	2.1	1.9	2.0	..
2016	-	1.9	2.0	1.65

F1* has been used in this Document.

While fertility rates across the OECD are typically below replacement, fertility rates in Ireland are increasing. The latest available data, which relates to 2008, shows that the TPFR was 2.10.

Assumed Net Inward Migration

Table C: Assumed net inward migration per annum for each five-year inter-censal period

	Projected M0	Projected M1	Projected M2
2002/2006	48,000 (actual)		
2006/2011	0	60,000	50,000
2011/2016	0	50,000	35,000
2016/2021	0	40,000	25,000
2021/2026	0	30,000	10,000
2026/2031	0	30,000	10,000
2032/2036	0	30,000	10,000
2036/2041	0	30,000	10,000

For further information on Tables B and C see *Population and Labour Force Projections, 2011-2041* (CSO, 2008) at www.cso.ie.

Assumed Net Outward Migration

The M(-1)F1* scenario is based on a continuing high level of births (F1*), zero net migration in 2010 followed by modest outward migration of families with children over the period 2011 to 2014 (M-1).

The approach taken to calculate this scenario is as follows:

- The most recent ESRI [Quarterly Economic Commentary \(Winter 2009\)](#) uses an assumption of net outward migration of 40,000 in the 12 months ending April 2010.
- In the past, when net outward migration was at its highest, it was running at an annual rate of over 40,000 in two years (1988 and 1989).
- The net outflow for the 0 – 14 year old age group was 5,300 and 3,400 in the years ending April 1988 and April 1989.
- In projecting forward under M-1, a figure of 2,900 net outflow for the age-group 4-14 is adopted for 2011, followed by a figure of 3,530 for 2012 and 2013 falling back to 2,900 in 2014.

Higher Education

The Leaving Certificate Entry Rate (LCER) is a critical determinant of intake to Higher Education. It measures the proportion of Leaving Certificate School Candidates who transfer to Higher Education either in the same year as sitting the Examination or later (but before the age of 23). Entrants aged 23 or more on 1 January in the same year as entry are defined as mature entrants.

The Rate of Undergraduate Turnover (ROUT) is defined as:

The percentage of stock enrolment at under-graduate level in year T that is still enrolled in under-graduate courses in year T+1.

Formally, it is calculated as:

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

Where Stock^t = total enrolment in full-time undergraduate courses at Higher Education in year T

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

Where Entrants^{t+1} = total intake to full-time undergraduate courses at Higher Education in year T+1

The ROUT is calculated from historical data on enrolment and intake by comparing changes in enrolment and intake over time.

Future Publication Schedule:

It is intended to continually review trends and update the enrolment projections in time for release in June of each year. Revisions - based on new information - may also be issued at other times.

Comparisons with previous projections

The table below shows the actual enrolment data for 2008/09 compared to the projected enrolment data for 2008/09 published in December 2008.

Table D Differences between Actual 2008/09 Enrolment and Projections Disseminated December 2008

Level	Actual Enrolment 2008/09	Projections Disseminated December 2008	Absolute Difference N	Difference in percentage terms %
Primary	498,914	499,999	-1,085	-0.2
Scenario M2F1				
Second	341,312	336,207	5,105	1.5
Scenario M2F1 & S2				
Third	145,741	139,126	6,615	4.8
Scenario M2F1, S2 and T2				

The difference of 5,000 pupils at Second Level when compared to the projected figure in December 2008 can partly be explained by approximately 3,500 more students enrolling in PLC courses and 500 more students repeating the LC than projected. The remaining difference of 1,000 was a combination of a number of factors including over 800 more than projected students enrolled in the second year of leaving certificate, indicating signs of possible increases in rates of retention. *See table D above.*

The difference in the projected and actual enrolment at Higher Education is due to more students enrolling at both undergraduate and post-graduate level than anticipated. *See table D above.*