



# **PROJECTIONS OF FULL-TIME ENROLMENT**

## **Primary and Second Level, 2013 - 2031**

**July 2013**

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## Executive Summary

- The projections show a continuing increase in both primary and post-primary enrolments into the future.
- Primary enrolments, which have already risen substantially in recent years, are projected to rise by over another 37,000 pupils by 2015, and continue to rise to a peak of around 596,000 in 2019 before beginning to reduce. This compares to a peak of 601,802 in 2020 that the 2012 projections for the scenario then considered the most likely.
- Post-primary enrolments are expected to rise by almost 16,000 by 2015 and continue rising until at least 2026 to a level of around 416,000 pupils before reducing. In the previous projections, enrolments reached a peak of 413,118 in 2026.
- Although the projections of enrolment take into account differing assumptions on fertility and migration, the underlying demographic structure of the population is the main driver of changes in enrolment patterns. Births increased annually from the beginning of the last decade, and this in turn began to affect primary school enrolments from around the mid-2000's onwards.
- The projections show that enrolment at primary level will continue to increase substantially in the coming years, under all scenarios with the addition of at least 66,000 pupils to the system by 2019. ) There is relatively little variation between the projected values under each scenario (less than 8,000 between the most positive and most negative scenario in 2019). The Department's preferred scenario, M2F2, shows a projected increase in enrolment of just over 70,000 pupils between 2012 and 2019.
- After 2019, the situation becomes less certain, with the range between the projected enrolments increasing year on year. Under all scenarios considered, however, enrolment will begin to drop year on year from the 2019\2020 level throughout the 2020's, and should return to present levels around 2026.
- At second level, we can be more certain about the likely enrolment patterns further into the future, as we have not only the births data but also enrolments data at primary level to use as a basis for examining likely future trends. The projections show that we can expect a continuing increase in enrolments at second level up as far as 2026, of at least 84,000 students, with a range of just under 10,000 between the most negative and most positive scenarios. The Department's preferred scenario M2F2, projects an increase of just under 89,000 pupils between 2012 and 2026. Beyond 2026 enrolments at second level will begin to decrease
- As the second level numbers increase, it is likely that demand for full time third level education will also increase. As third level numbers are projected over the next 15 years, fertility is not a factor, and so there is less variation between the projected values under the different migration assumptions. An increase in demand of at least 45,000 places over 2012 levels is expected by 2027. A separate release on third level projections is available.

## Introduction

This document provides the latest set of projections of full-time enrolment in first- and second-level schools aided by the Department of Education and Skills. This release updates the previous set of first- and second-level projections released in June 2012. A separate document on third-level projections is also available in the “Statistics” area of the Department’s website.

The methodology for producing the projections was completely revised in 2012, to take account of data available from Census 2011. The CSO have also recently published an updated set of overall population projections for the period 2016-2046 using Census 2011 as a basis. Representatives of the Department of Education and Skills were part of the CSO expert group that devised the fertility and migration assumptions for the updated projections, and so for this iteration of the enrolment projections these assumptions have been adopted fully.

This document covers all years from 2013 to 2031 for students in first- and second-level institutions aided by the Department of Education and Skills only.

Following on from the assumptions adopted in the CSO projections, three migration assumptions and two fertility assumptions are presented, giving rise to six scenarios in total for which projected data are presented.

The Department has chosen M2F2, a scenario encompassing the medium migration assumption and an assumption of gradually declining fertility as the most likely scenario going forward. F2 assumes a slightly steeper decline than the fertility assumption chosen in last year’s projections as the most likely. The most recent evidence shows the fertility rate in Ireland fell from the 2010 level of 2.09 to 2.01 in 2012, and so F2 seems like the most reasonable assumption on the current information available.

The projections data for each of the scenarios are also available in interactive tables in the Department’s Education Statistics database at:

<http://www.education.ie/en/Publications/Statistics/Education-Statistics-Database/>

## Projected Enrolments for 2013-2015

The following table shows the provisional enrolments for 2012 and the expected enrolments for the following three academic years under scenario M2F2. It should be noted that each year refers to the beginning of a school year when enrolment is recorded in September of that year. Hence, the year 2012 refers to enrolment in September 2012 of the school year 2012/13.

Table (i) contains a projection of enrolment from 2013 to 2015, based on births data for the relevant years, and an adjustment for the likely migration patterns for both the primary and post-primary school-aged cohort, based on the CSO migration assumptions. We present the projected figure for each of 2013, 2014 and 2015 for M2F2 only, in this Table.

**Table (i) Overview of Enrolment Trends 2012-15**

<b>Year beginning</b>	<b>First Level</b>	<b>Second Level</b>
<b>2012 (provisional)</b>	526,426	327,320
<b>2013</b>	539,127	335,250
<b>2014</b>	552,019	339,332
<b>2015</b>	563,744	343,208

As can be seen from the Table, a continuing increase in enrolments is expected at both first and second level. At first level, the increases in births in recent years are reflected in the corresponding continuing increase in the levels of enrolment.

At second level there is also a year-on-year increase projected from 2013 to 2015. The second-level trend follows directly from the trend seen at primary level in recent years of consistent year-on-year increases in enrolments.

## Fertility and Migration Scenarios

A number of fertility and migration scenarios were considered for the projections of enrolment from 2013 onwards. These are based directly on the assumptions that were formulated by the CSO Expert Group in the most recent national population projections, published in April 2013.

For migration the following set of assumptions were used:

**M1:** Net migration will return to positive by 2016 and rise steadily thereafter to plus 30,000 annually by 2021.

**M2:** Net migration will return to positive by 2018 and rise thereafter to plus 10,000 annually by 2021.

**M3:** Net migration will remain negative for the whole period of the projections.

Assumptions were also made on the direction of the Total Period Fertility Rate (TPFR), a synthetic indicator of fertility which 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. The following assumptions were made on TPFR:

**F1:** TPFR will remain constant at the 2010 level of 2.1 (the "replacement level") over the period of the projections.

**F2:** TPFR will very gradually decline in the coming years, reaching a level of 1.8 by 2026 and remaining constant thereafter.

These two sets of assumptions combine to give a total of six scenarios under which enrolments are projected from 2013 to 2031. Given the most recent data available, the Department is currently considering M2F2 as the most likely scenario over this period.

# 1 Primary-Level Projections

Figure 1 and Table 1 show the levels of enrolment at first level under the various scenarios **M1F1** to **M3F2**, from 2013 to 2031.

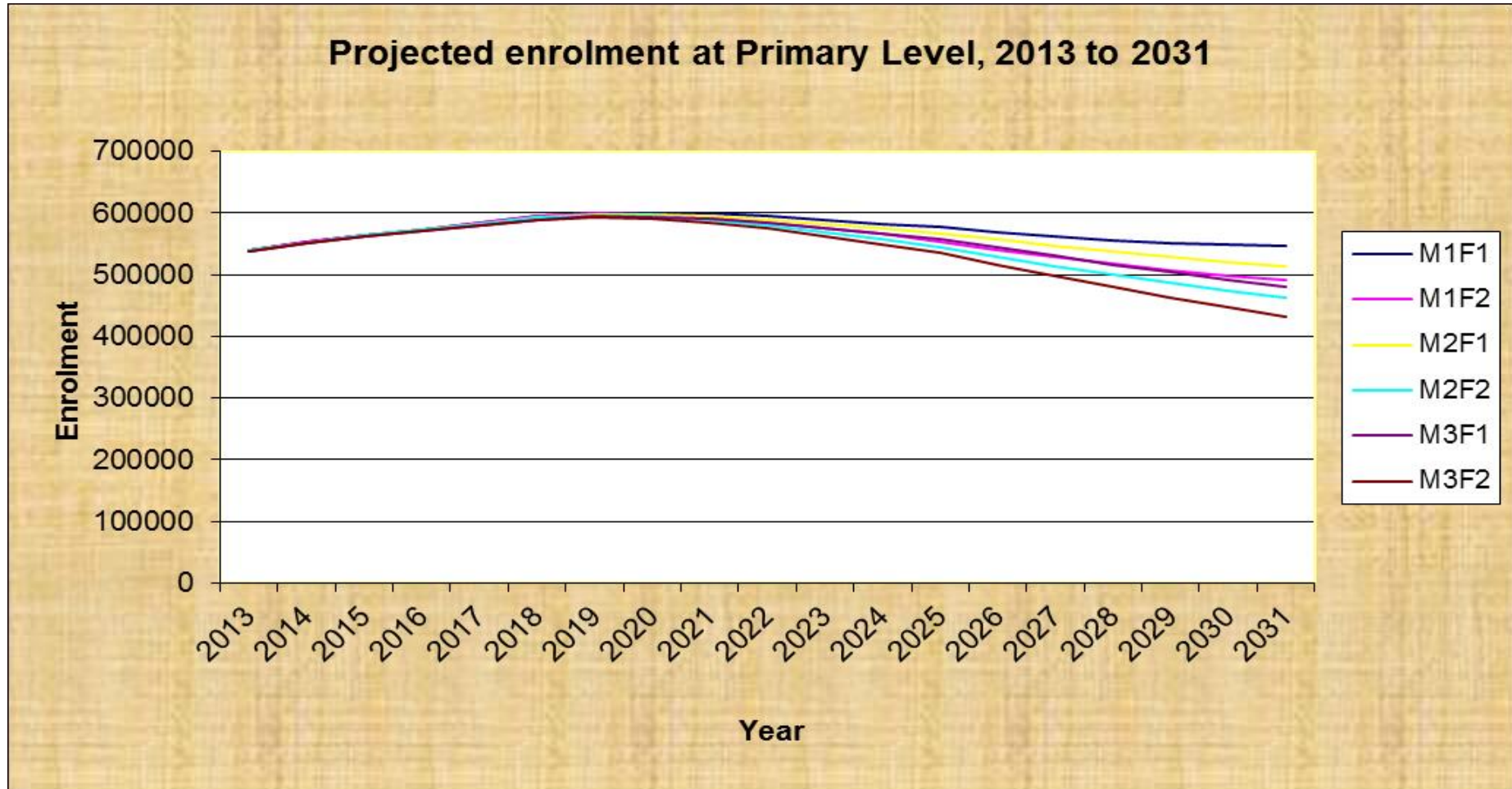
*Table 1 Projections of Enrolment at Primary Level, 2013-2031*

	<b>M1F1</b>	<b>M1F2</b>	<b>M2F1</b>	<b>M2F2</b>	<b>M3F1</b>	<b>M3F2</b>
<b>2013</b>	539,407	539,407	539,127	539,127	538,789	538,789
<b>2014</b>	552,586	552,586	552,019	552,019	551,216	551,216
<b>2015</b>	564,700	564,700	563,744	563,744	562,415	562,415
<b>2016</b>	574,216	574,216	572,713	572,713	570,931	570,931
<b>2017</b>	583,744	583,744	581,929	581,929	579,625	579,625
<b>2018</b>	594,740	594,435	592,627	592,322	589,735	589,430
<b>2019</b>	600,237	598,841	597,835	596,440	594,393	592,997
<b>2020</b>	600,926	597,685	597,832	594,592	593,794	590,559
<b>2021</b>	599,282	593,471	595,421	589,622	590,741	584,960
<b>2022</b>	594,462	585,387	589,626	580,587	584,086	575,095
<b>2023</b>	588,802	575,789	582,747	569,819	575,984	563,167
<b>2024</b>	583,257	565,659	575,733	558,300	567,242	550,032
<b>2025</b>	577,201	554,388	567,714	545,192	557,004	534,876
<b>2026</b>	569,158	540,795	557,173	529,297	543,736	516,495
<b>2027</b>	562,029	528,245	546,914	513,907	530,209	498,158
<b>2028</b>	556,107	517,009	537,368	499,441	516,917	480,362
<b>2029</b>	551,628	507,268	528,715	486,037	504,137	463,345
<b>2030</b>	548,675	499,050	521,090	473,783	492,095	447,292
<b>2031</b>	547,327	492,383	514,623	462,763	481,043	432,401

Note: Peak enrolment figures are highlighted in green above.



**Figure 1: Projections of Enrolment at Primary Level**



## KEY POINTS TO NOTE

### Primary Level:

- **Focussing on the immediate three-year period ahead** (2013-2015 inclusive), enrolment is projected to increase by some 37,318 pupils under scenario **M2F2**. This reflects a continuing assumed net inward migration of the school-aged population. However, as the main driver of the increase is the underlying births figures for the period 2007-2009, it is highly unlikely that enrolment at primary level will fall before the year 2015 even if increased emigration of families occurs before then.
- Currently **M2F2** is considered the most likely scenario. This would suggest an increase in enrolments at primary level to 596,440 by 2019, and a continuous decline thereafter, to a level of 462,763 by 2031.
- Estimation of net migration for pre-school-aged children (roughly aged 0-4) can be difficult given the lack of available data; this can cause some volatility year-on-year, as estimates are revised when updated data becomes available. In general, the projections of enrolment at primary level in the near term have less volatility than further out into the future, as the variation in the near term is due to differences in migration assumptions only.
- There is greater uncertainty about trends beyond 2015 as the cumulative effect of using different migration or fertility assumptions is estimated. Under a low-growth scenario (**M3F2** – negative net migration for the entire period of the projections combined with a gradual fall in fertility), enrolment could fall to around 432,500 by 2031. Under a high-growth scenario (**M1F1** – a quick return to higher positive net migration combined with fertility remaining constant at around the current rates), enrolment would be at a level of around 547,500 by 2031.
- In all scenarios considered, continuing enrolment growth up to 2019 is implied and, for one scenario, growth continues up to 2020. However, from 2021 at the latest, all scenarios show falling enrolment numbers for the remainder of the period shown. This reflects both a reduction in births in the last two years and a likelihood of continuing reductions in births from around 2015 onwards, as there is a natural reduction in the projected numbers of females aged 15-49 from that point onwards, reflecting the reduction in births in the 1990s in comparison to the 1980s.
- The margin between the highest (**M1F1**) and lowest (**M3F2**) population-growth scenarios is around 115,000 pupils in the year 2031. This is a lower margin than in previous projections, and reflects the use of six scenarios in this iteration of the projections rather than the nine scenarios used in previous projections. This compares to a margin of only 618 between the highest and lowest scenario for the year 2013.

## 2 Second-Level Projections

Second level comprises all Junior and Leaving Certificate course students in DES-aided schools and colleges. The figures below refer to school-based enrolments up to Leaving Certificate and do not include PLC students.

There has been a noticeable increase in retention in recent years reflecting reduced job opportunities for early school leavers.

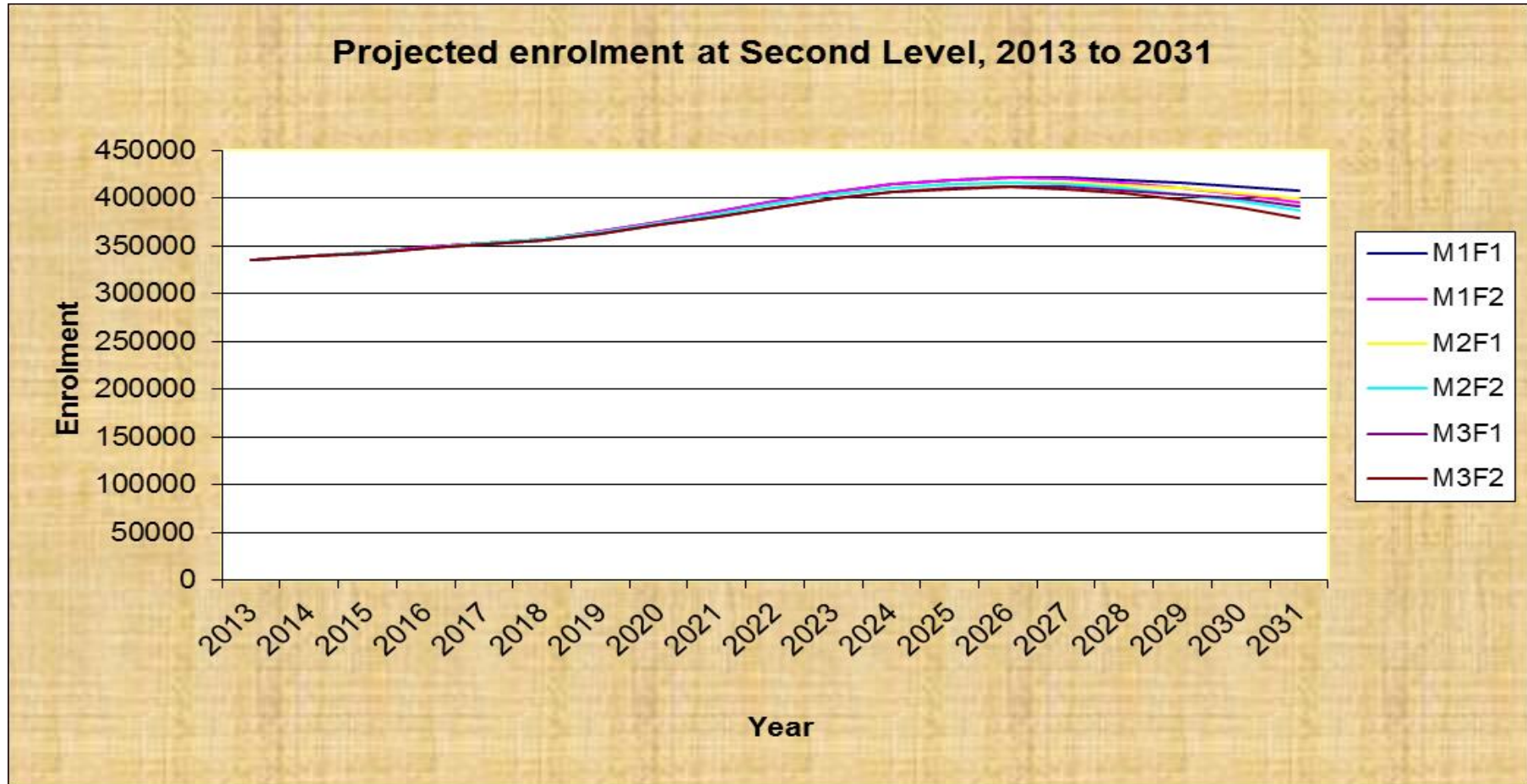
Table 2 presents projected enrolment to the year 2031 at second level.

*Table 2 Projections of Enrolment at Second Level, 2013-2031*

	<b>M1F1</b>	<b>M1F2</b>	<b>M2F1</b>	<b>M2F2</b>	<b>M3F1</b>	<b>M3F2</b>
<b>2013</b>	335,342	335,342	335,250	335,250	335,114	335,114
<b>2014</b>	339,531	339,531	339,332	339,332	338,978	338,978
<b>2015</b>	343,518	343,518	343,208	343,208	342,627	342,627
<b>2016</b>	348,737	348,737	348,212	348,212	347,413	347,413
<b>2017</b>	353,263	353,263	352,567	352,567	351,501	351,501
<b>2018</b>	357,805	357,805	356,924	356,924	355,514	355,514
<b>2019</b>	365,467	365,466	364,326	364,326	362,562	362,561
<b>2020</b>	375,504	375,501	373,935	373,932	371,808	371,805
<b>2021</b>	385,411	385,402	383,231	383,222	380,623	380,614
<b>2022</b>	396,241	396,221	393,518	393,498	390,404	390,387
<b>2023</b>	406,805	406,769	403,551	403,516	399,939	399,906
<b>2024</b>	414,699	414,641	410,902	410,844	406,848	406,792
<b>2025</b>	418,589	418,501	414,362	414,275	409,879	409,795
<b>2026</b>	421,268	420,856	416,673	416,262	411,814	411,408
<b>2027</b>	421,323	419,835	416,421	414,935	411,284	409,802
<b>2028</b>	419,041	415,745	413,665	410,375	408,214	404,931
<b>2029</b>	415,868	410,081	409,905	404,135	403,973	398,225
<b>2030</b>	412,366	403,450	405,606	396,733	398,923	390,105
<b>2031</b>	407,700	395,144	399,843	387,379	392,054	379,708

Note: Peak enrolment figures are highlighted in green above.

**Figure 2: Projections of Enrolment at Second Level**



## KEY POINTS TO NOTE

### Second Level:

- **Focussing on the immediate three-year period ahead (2013-2015)**, enrolment is projected to increase in each year. The projected increase in enrolment is in the order of 16,000 between September 2012 and September 2015 inclusive.
- Currently **M2F2** is considered the most likely scenario. This would suggest a year-on-year increase in second-level enrolments to a peak of 416,262 over the period considered (occurring in 2026), with a decrease in enrolments occurring from that point, to a level of just under 387,400 by 2031.
- Following directly onwards from the increases in primary-level enrolments in recent years, significant increases in second-level enrolments are likely in the years after 2014 under all scenarios considered. Under the lowest-growth scenario (**M3F2** – negative net migration for the entire period of the projections combined with a gradual fall in fertility), enrolment would be in the region of 380,000 in 2031. Under the highest-growth scenario considered (**M1F1** – a quick return to higher positive net migration combined with fertility remaining constant at around the current rates), enrolment could be at just under 408,000 by 2031.
- All scenarios considered result in continuing enrolment growth up to a peak in 2026 (or 2027 under one scenario), as the increased numbers in primary level in the recent past and near future begin to transfer to second-level education in the coming years.
- The margin between the highest (**M1F1**) and lowest (**M3F2**) population-growth scenarios is around 28,000 pupils in the year 2031 compared to a margin of only 228 in the year 2013.

## Review of 2012 Projections

This section presents a short review of last year's projections and outlines the updates to the projected figures that have been made for the 2013 iteration.

Table 3 outlines the projected values for the period 2012-2015 in the previous projections document published in 2012, and the current projected values for the most likely scenario (**M2F2**) for first and second level.

**Table 3 Comparisons with 2012 Projections**

	Primary Level 2012	Primary Level 2013		Second Level 2012	Second Level 2013	
	<b>Most likely scenario</b>	<b>Actual</b>	<b>Difference</b>	<b>Most likely scenario</b>	<b>Actual</b>	<b>Difference</b>
<b>2012</b>	524,901	526,426	<b>1,525</b>	327,105	327,320	<b>215</b>
	<b>Most likely scenario</b>	<b>M2F2</b>	<b>Difference</b>	<b>Most likely scenario</b>	<b>M2F2</b>	<b>Difference</b>
<b>2013</b>	536,316	539,127	<b>2,811</b>	335,957	335,250	<b>-707</b>
<b>2014</b>	548,939	552,019	<b>3,080</b>	339,682	339,332	<b>-350</b>
<b>2015</b>	560,996	563,743	<b>2,747</b>	342,847	343,208	<b>-361</b>

As can be seen from Table 3, the projected value for second level in 2012 was very close to the actual enrolment figure for 2012, with a difference of around 200 from the projection.

There was a larger difference in primary level between the projected and actual figure, of the order of 1500. As in previous projections, the difference between the projected and actual figure is mainly concentrated in the Junior Infants cohort and reflects the difficulties of accurately estimating migration for the previous five years for the pre-school cohort. Additionally, lack of availability of comprehensive data for the private-sector primary schools means it is only possible to estimate the numbers that go directly to private primary institutions.

The current set of projections reflect the expectation of a larger increase in enrolments in primary level over the period 2013 to 2015 than previously considered, and a slight lowering of the expected increase in second-level numbers. There are a number of factors that have contributed to this:

- 1) The increase in enrolments in 2012 over what has been projected leads to a higher base from which to project forward, which has a knock-on effect in future years.
- 2) Migration has been considered in a different way for the current projections, using the CSO single year of age multipliers as used in the overall population projections. This has led to some changes in the balance between migration at primary and post-primary level, with less outward migration predicted at primary level and slightly more at post-primary level. It should be borne in mind that single year of age migration estimates are extremely volatile from year to year, given the lack of available substantive data.
- 3) Minor adjustments were made to the flows of data in and out of private and special education, and the repeat rates for each grade, based on updated data available for 2012. However, the resulting effect on the overall figures was minimal (around 300 pupils at primary level for 2012 from a total of around 526,000).

Over the longer term, as per the previous set of projections, enrolments are still expected to peak around 2019 for primary level and around 2026 for second level before beginning to reduce.

The Department's most likely scenario (**M2F2**) in this iteration of the projections shows that primary enrolments are projected to peak at 596,440 in 2019, compared to a peak of 601,802 in 2020 in the last set of projections. The second-level figures in the current projections show a peak of 416,262 occurring in 2026, compared to a peak of 413,118 in 2026 in the previous projections.

These differences are attributable to differences in both the migration and fertility assumptions. The scenario chosen as the most likely last year assumed that net migration of the school-aged population would balance to 0 for the majority of the projections period, while the middle migration assumptions chosen by CSO assume that net migration will return to positive and remain slightly positive from 2018 onwards. Recent data also shows that the total period fertility rate has declined in both 2011 and 2012, which has led to consideration of assumption F2 as the most likely going forward. F2 assumes a slightly quicker decline in fertility than the gradual decline taken as most likely in last year's projections.

Further details on the data underlying the assumptions are available in Appendix A below.

# Appendix A

## Supplementary Tables and Methodological Information

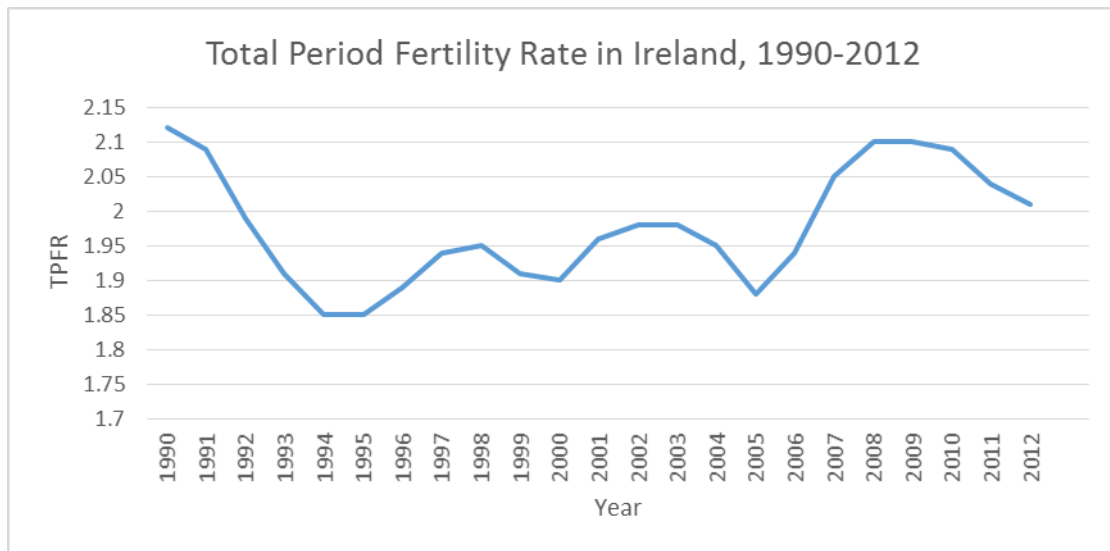
### A.1 Fertility Assumptions

The *Total Period Fertility Rate (TPFR)* 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.

The number of births registered in Ireland in the intercensal period 2006-2011 peaked at 75,554 in 2009, when the TPFR was at a level of 2.09. In 2011 the TPFR fell to 2.04, with births at a level of 74,650. Recent figures released in May 2013 show that the number of births in 2012 had fallen to 72,225, giving a fertility rate of 2.01.

The total period fertility rate has shown considerable volatility between the bands 1.85 and 2.15 in the past two decades, as shown in Figure A.1

**Figure A.1 – Total Period Fertility Rate 1990-2012**



Assumption F1 allows for the TPFR to remain at replacement rate, while assumption F2 allows for a gradual reduction over the period of the projections. Therefore, given the reduction in the TPFR in 2011 and 2012, F2 has been chosen as the more likely scenario.

Table A.1 overleaf shows the projected births under each fertility assumption for the period 2013 to 2026.



**Table A.1: Projected Births under each Fertility Assumption, 2013-2026**

	<b>M1F1</b>	<b>M1F2</b>	<b>M2F1</b>	<b>M2F2</b>	<b>M3F1</b>	<b>M3F2</b>
<b>2013</b>	75,360	75,360	75,360	75,360	75,360	75,360
<b>2014</b>	73,981	73,171	73,981	73,171	73,981	73,171
<b>2015</b>	72,536	70,958	72,491	70,912	72,423	70,844
<b>2016</b>	71,126	68,813	70,977	68,671	70,726	68,428
<b>2017</b>	69,979	66,965	69,599	66,600	69,077	66,099
<b>2018</b>	69,036	65,337	68,327	64,668	67,429	63,818
<b>2019</b>	68,098	63,746	67,073	62,785	65,664	61,467
<b>2020</b>	67,214	62,228	65,775	60,894	63,825	59,092
<b>2021</b>	66,558	60,945	64,580	59,133	62,073	56,837
<b>2022</b>	66,198	59,954	63,535	57,540	60,460	54,755
<b>2023</b>	66,096	59,205	62,714	56,177	59,055	52,897
<b>2024</b>	66,193	58,642	62,067	54,987	57,814	51,219
<b>2025</b>	66,557	58,316	61,670	54,036	56,820	49,787
<b>2026</b>	67,159	58,202	61,508	53,303	56,062	48,584
<b>2027</b>	67,920	58,217	61,497	52,711	55,471	47,549

*Source: CSO population projections 2016-2046*

## **A.2 Migration Assumptions**

In order to arrive at migration assumptions for primary and post-primary school-aged children, a proportion of the overall migration is taken for each relevant single year of age. Available data from both the Department’s school census records and the Quarterly National Household Survey shows a trend of overall migration for the cohort of children under 18 remaining positive to date, and therefore this is reflected in the multipliers used to calculate migration of children under 18. This means that migration for school-aged children is still projected to be positive even in cases where overall migration is negative.

**Table A.2: Projected Migration of 0-18-year-olds under each Migration Assumption, 2013-2026**

	<b>M1</b>	<b>M2</b>	<b>M3</b>
<b>2013</b>	504	635	281
<b>2014</b>	1429	1378	649
<b>2015</b>	2567	1954	1017
<b>2016</b>	3421	2279	1117
<b>2017</b>	3733	2690	1216
<b>2018</b>	4274	3085	1315
<b>2019</b>	4653	3197	1415
<b>2020</b>	5556	3309	1514
<b>2021 onwards</b>	5828	3420	1514

### **A.3 Deaths**

Assumptions on deaths are taken directly from the CSO projections for each single year of age. The effect of deaths on the overall projections is miniscule given the small numbers involved.

### **A.4 Retention at Second Level**

The rate of retention for the 2006 entry cohort of students (those who entered second-level education in 2006 and sat their Leaving Certificate in 2011 or 2012) was over 90%, which is an improvement on previous years. This improved rate is carried throughout the model when projecting likely numbers of second-level students.

### **A.5 Other Factors**

A number of other factors, which have a smaller impact on overall figures, are included in the model, including transfers to and from the private sector and special education, as well as repeat rates in Junior Infants and 6<sup>th</sup> class in primary school.