

CLASS SIZE AND STUDENT-TEACHER RATIO AT PRIMARY LEVEL IN IRELAND AND OTHER OECD COUNTRIES

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Trends in primary class size and student-teacher ratio for Ireland were examined and subsequently compared with those of other OECD countries. In recent decades, substantial progress has been made in reducing the size of classes and the ratio of students to teaching staff in Ireland's primary schools. However, average class size and student-teacher ratio remain above the OECD averages, and Ireland continually ranks more poorly on both relative to other OECD countries. The comparisons drawn in the study, though indicative of broad trends in Ireland and elsewhere, have some limitations. Nonetheless, the use of available data to monitor trends in class size and student-teacher ratio can inform policy in this area. Future research might address the extent to which class size and student-teacher ratio are linked to student outcomes in the countries studied, as well as examining the relationship among all three variables over time, possibly using data from international studies.

A concern with class size and student-teacher ratio in primary schools has been evident in government policy and discourse for decades (see Weir, Archer, & McAvinue, 2010). Historically, however, Ireland has had larger class sizes and student-teacher ratios than many other countries, and, as a result, has received unfavourable commentary on its performance on both. While the terms are often confused, class size and student-teacher ratio are distinct (though related) indicators in educational systems. *Class size* refers to the number of students ordinarily in a classroom, while *student-teacher ratio* indicates the number of students enrolled relative to total teaching posts, and this includes teaching staff not assigned to classrooms. Student-teacher ratio thus reflects more than class size; it also reflects staffing levels and hence, the level of professional input possible in students' learning. Class size, however, provides a more accurate picture of the conditions in everyday classroom contexts (Weir et al., 2010).

Analyses undertaken using data from the 1980s to 2006 indicated that reductions in both class size and student-teacher ratio were made in primary

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schools in Ireland in recent decades (Weir et al., 2010). However, it is not clear how Ireland has compared internationally on both. Also, the extent to which trends in class size and student-teacher ratio in Ireland have changed in the past decade is not known. Indeed, since 2005/06, various measures have been introduced that affect the size of primary-school classes and the number of teaching posts in primary schools.¹ In addition, primary-school enrolments have grown rapidly, with an 18.5% increase nationally between 2005/06 and 2014/15 according to data published in the Department of Education and Skills (DES) *Annual Statistical Reports*.

The current study extends the analyses conducted by Weir et al. (2010) by exploring more recent trends in class size and student-teacher ratio in primary schools in Ireland and by examining the data for Ireland in the context of international trends. The paper begins with a summary of the previous analyses of trends in class size and student-teacher ratio in primary schools in Ireland. This is followed by an analysis of class size and student-teacher ratio in ‘public’ primary schools from 1999/00 to 2012/13.² Next, Ireland’s performance on both indicators is compared to the performance of a sample of other OECD countries from the late 1980s until 2012/13. Finally, key findings are summarised and conclusions drawn about trends in class size and student-teacher ratio in Ireland and how these compare to trends in other OECD countries.

TRENDS IN CLASS SIZE AND STUDENT-TEACHER RATIO IN IRELAND – PREVIOUS ANALYSES

Previous research has shown that Government efforts to reduce class size and student-teacher ratio had considerable success. Weir et al. (2010) examined the trends in class size and student-teacher ratio over time in primary schools in Ireland using data published in the DES *Annual Statistical Reports*. Using data for ordinary single-grade classes, they found that classes in primary schools decreased in size between the mid-1980s and the mid-

¹ For example, the recruitment moratorium for public sector staff, introduced in 2009 by the Department of Public Expenditure and Reform, changes to the appointment and retention thresholds for mainstream classroom teachers that commenced in 2012/13 (DES, 2012), and the reduction in resource teachers for Traveller students in 2011/12 (Dáil Debates, Written Answers, 29 June 2011, 17712/11).

² The majority of primary schools in Ireland are ‘public’ schools, which are funded and run by the government. Available data suggest that the proportion of the total primary school population accounted for by public schools ranged between 99.6% and 98.5% during the period 1990/91 to 2012/13 (data extracted from the annual OECD publication, *Education at a Glance*).

2000s. Specifically, class size reduced by 21.5% from an average of 31.8 students in 1985/86 to 25.1 students in 2005/06, and this reduction was greater for junior classes than senior classes. In addition student-teacher ratio declined substantially between the mid-1960s and mid-2000s. In fact, the student-teacher ratio in 2005/06 (16.6:1) was around half of what it was in 1967/68 (32.4:1). This reduction reflects smaller classes, but also an increase in the number of teachers not assigned to particular classrooms (e.g., administrative principals and learning support teachers). Hence, while there were reductions in both measures, the gap between student-teacher ratio and class size widened over the period examined (Weir et al., 2010). It is worth noting that reductions in both were achieved in periods when total enrolment was in decline (making reductions relatively easy) and during periods of enrolment growth (making reductions more difficult).

THE CURRENT STUDY

Trends in class size and student-teacher ratio in primary schools in Ireland from 1999/00 to 2014/15 were examined using data extracted from the DES *Annual Statistical Reports*. The aim of the study was to determine if and how trends in class size and student-teacher ratio had changed since 2005/06. Average class size for primary schools was examined for all grades, and for junior and senior grades separately. To ensure comparability across both periods examined, only ordinary, single-grade classes were included.³ Data for the period 1999/00 to 2005/06 were reproduced to enable the consideration of trends in class size and student-teacher ratio within a historical context.

A further aim of this study was to determine how class size and student-teacher ratio in primary schools in Ireland compare with those in other countries, and if and how Ireland's relative position in terms of one or both has changed over time.⁴ The countries selected for comparison are those

³ The DES provides data that enable the calculation of average class size for single-grade, ordinary classes specifically. Using data for these classes only for this part of the study provided a more accurate indication of class size, as multi-grade classes and special classes tend to be smaller than single-grade ordinary classes.

⁴ Note that issues, some of which impact on the comparability of data from country to country, emerged during attempts to use Irish and international class size and student-teacher ratio data in this study as had been intended. For example, there are different inclusion criteria for students and teachers in the calculations of class size and student-teacher ratio across OECD countries. Further discussion of this is beyond the scope of the present paper, but details are available from the first author on request.

included in the first *Education at a Glance* report (OECD, 1992) (see Appendix). *Education at a Glance* facilitates the comparison of class size from 1999/00 (the earliest available data) to 2012/13 (the latest available data) in ordinary classes in primary schools. *Education at a Glance* also facilitates the comparison of student-teacher ratio from 1987/88 (the earliest available data) to 2012/13 (the latest available data) for OECD countries. However, due to methodological issues with the data reported for Ireland, a straightforward comparison of student-teacher ratio in Ireland and other OECD countries using the OECD data was not possible.⁵ Instead, data for primary schools in Ireland (from the DES reports) are compared with data for public and private schools in the OECD countries and the OECD average. Private schools represent a very small proportion of all primary schools in Ireland, and hence their exclusion has minimal impact on the calculation of student-teacher ratio in Ireland.

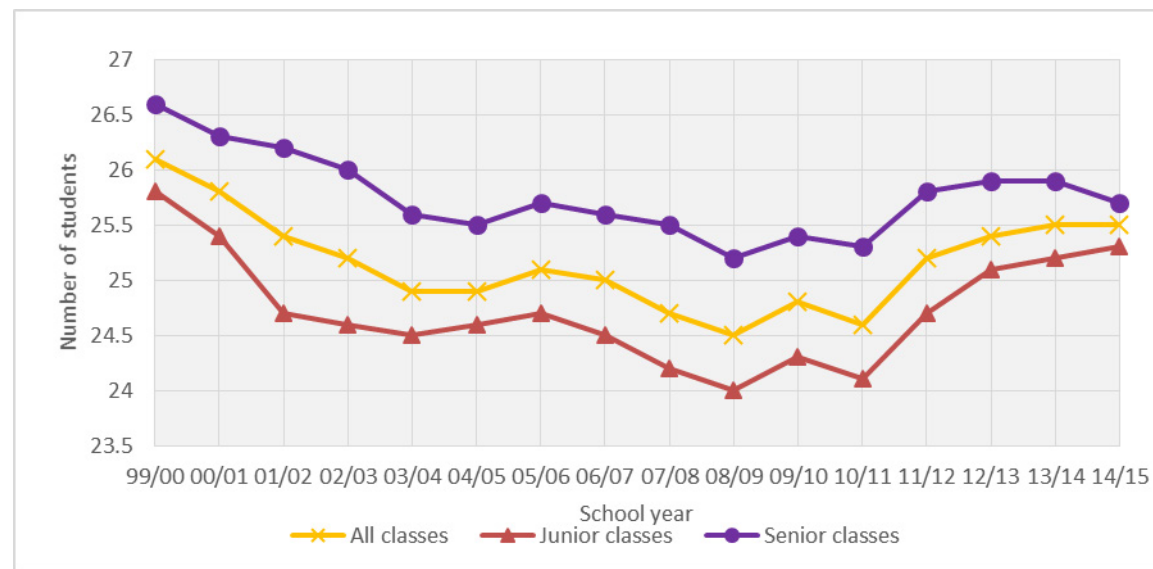
CLASS SIZE IN PRIMARY SCHOOLS IN IRELAND FROM 1999/00 TO 2014/15

The overall downward trend in average class size in primary schools in Ireland observed by Weir et al. (2010) flattened out to some extent in the early to mid-2000s, before declining steadily over three years from 25.1 in 2005/06 to 24.5 in 2008/09 (Figure 1). Indeed, the smallest class size observed in the current study was in 2008/09.⁶ The period following 2008/09, which coincided with the economic recession, was largely characterised by an increase in class size – as Figure 1 shows, a sharp increase from 2010/11 was followed by a levelling off at 25.5 from 2013/14. As can be seen, average class size in 2014/15 was similar to what it had been in 2001/02. Nonetheless, over the 16-year period, it appears there was some success in

⁵ Changes in the methodology for the inclusion and calculation of whole-time equivalent part-time teachers implemented in 2009/10 mean that student-teacher ratio data from 1999/00 to 2009/10 are not directly comparable with data after 2009/10 (DES, personal communication, May 2016). As a result of the changes, the more recent data (2009/10 to 2014/15) are a more accurate reflection of student-teacher ratio in primary schools in Ireland.

⁶ The available data did not permit the calculation of the average class size for single-grade, mainstream classes with integrated students (Traveller students and students with special educational needs) for all years of interest. The 2008/09 average class size figure was calculated without integrated students. Hence the actual average class size is likely to have been slightly larger.

Figure 1
Average class size for single-grade ordinary classes in primary schools in Ireland from 1999/00 to 2014/15 for junior classes, senior classes and all classes



reducing class size as suggested by the decline from 1999/00 to 2008/09. Despite the increase thereafter, average class size was still smaller (by 0.6) in 2014/15 than it was in 1999/00. Overall, the trends for junior classes and senior classes largely mirror the trend for all primary classes up to 2012/13. Between 2013/14 and 2014/15, however, senior class size decreased slightly, while junior class size increased slightly, resulting in a difference between them of 0.4 in 2014/15. It should be noted that the changes in average class size described between 2005/06 and 2014/15 occurred in the context of an 18.5% increase in enrolments nationally between those years (DES *Annual Statistical Reports*), and during a time that included deteriorating economic circumstances. A further consideration is the possible impact of rationalisation through amalgamations and closures of smaller schools, which had the effect of reducing the number of multi-grade classes while increasing the size of single-grade classes, thereby masking any overall class-size reductions. Indeed, the number of multi-grade classes decreased by 16% between 2005/06 and 2014/15 (DES *Annual Statistical Reports*).

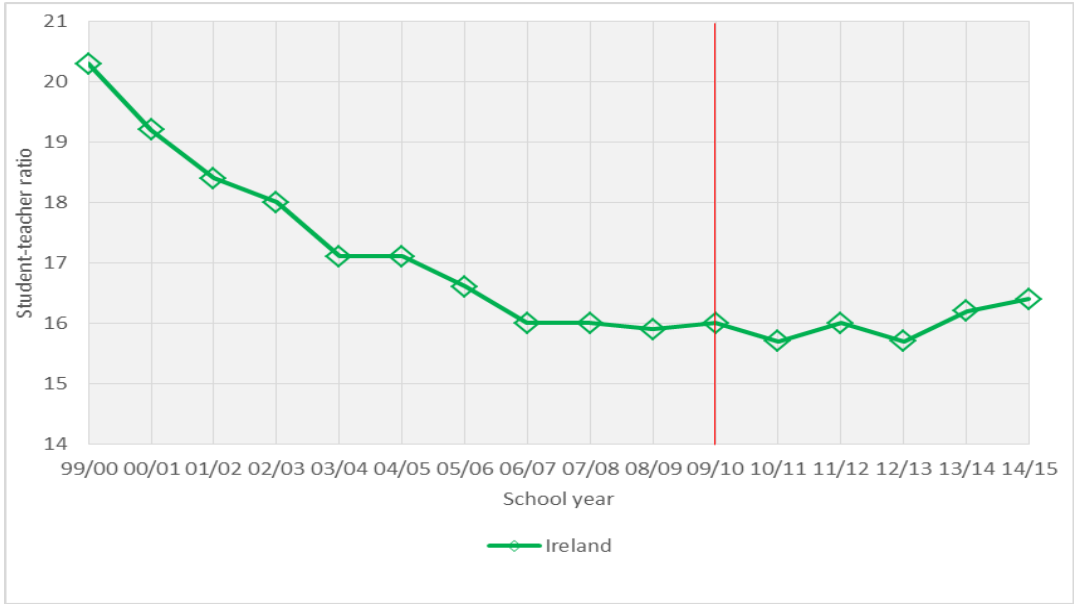
STUDENT-TEACHER RATIO IN PRIMARY SCHOOLS IN IRELAND
FROM 1999/00 TO 2014/15

As noted earlier, the available data do not permit a direct comparison of student-teacher ratio before and after 2009/10 due to changes in methodology for the calculation of whole-time equivalent part-time teaching posts (DES, personal communication, May 2016). Hence, the trends in student-teacher ratio for 1999/00 to 2008/09 and for 2009/10 to 2014/15 are considered separately as presented in Figure 2, with the vertical line marking the discontinuity between the two classes of data. The data from 2009/10 onwards may be considered a more accurate reflection of student-teacher ratio in primary schools in Ireland.

Weir et al. (2010) identified a substantial reduction in the student-teacher ratio in primary schools in Ireland from the late-1960s to mid-2000s. As shown in Figure 2, the decline continued until 2006/07 at which point student-teacher ratio was 16:1. From 2006/07 to 2008/09 there is some flattening of the trend line, indicating a levelling off of the student-teacher ratio during this period.

In 2009/10, there were 16 students for every whole-time equivalent teaching post in primary schools. Then, there was a slight decline in student-teacher ratio in 2010/11, followed by an increase in 2011/12 and 2012/13, and negligible decreases thereafter. Student-teacher ratio was fairly stable overall

Figure 2
Student-teacher ratio in primary schools in Ireland from 1999/00 to 2014/15



from 2010/11 to 2014/15, however, ranging from 16.2:1 to 16.4:1. The smallest student-teacher ratio during the period was 15.7:1 in 2010/11. Indeed, this is the smallest value reported for student-teacher ratio for primary schools in Ireland for the entire period from 1967/68 onwards (see also Weir et al., 2010).

CLASS SIZE IN PRIMARY SCHOOLS IN IRELAND AND
OTHER OECD COUNTRIES FROM 1999/00 TO 2012/13

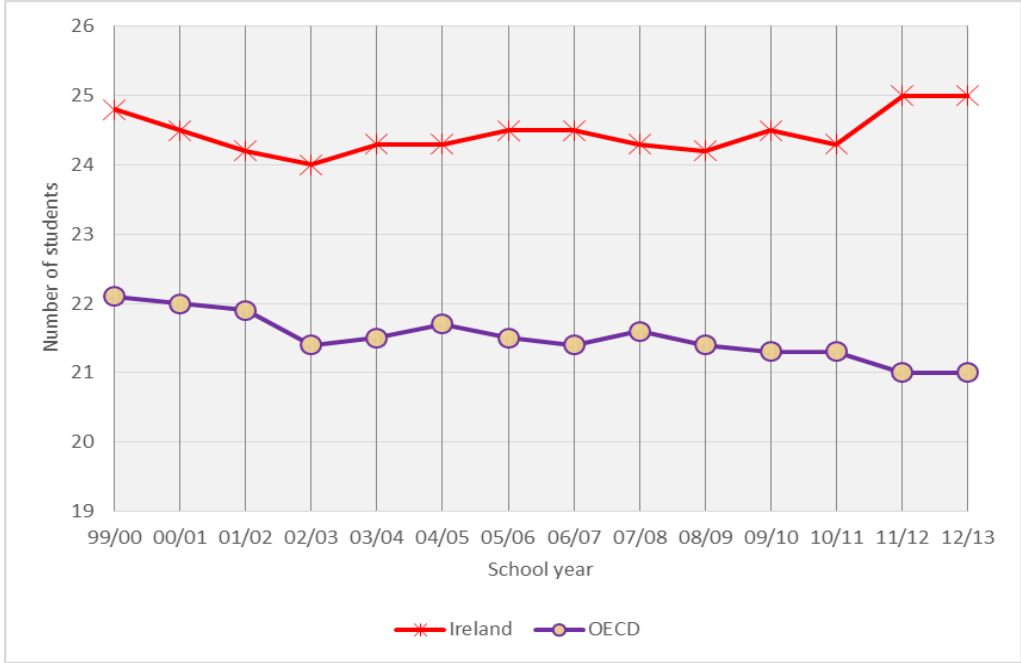
Figure 3 presents the average class size in primary schools in Ireland from 1999/00 to 2012/13 and compares this to the OECD average during the same period. While the earlier analysis of average class size in Ireland referred to ordinary single-grade classes, the data examined here for Ireland and the OECD countries refer to all ordinary classes (single-grade and multi-grade).⁷ Overall, there was little fluctuation evident in class size in Ireland or in OECD countries on average when all ordinary classes were considered in the analyses. Average class size in Ireland ranged from 24 to 25 students during the period in question, while the OECD average ranged from 21 to 22.1 students.⁸ Between 1999/00 and 2012/13, therefore, class size in Ireland exceeded the OECD average by between two and four students. In 2012/13, average class size in Ireland (25) [24.7 before rounding], was almost identical to what it was in 1999/00 (24.8), yet the gap between Ireland and OECD countries had widened to four students. Also, Ireland experienced its largest average class sizes in 1999/00 and 2012/13, while the smallest average class size for the OECD countries occurred in 2011/12 and 2012/13. Ireland, on the other hand, experienced its smallest average class size (24) in 2002/03.

To facilitate comparisons of Ireland's data with individual countries, Table 1 presents average class size in primary schools from 1999/00 to 2012/13 for 14 OECD countries including Ireland. Average class sizes ranged from 15 for Luxembourg (2011/12 to 2012/13) to 31 for Turkey (1999/00). With class size varying from 24 to 25 students, Ireland had one of the larger average class sizes

⁷ The class-size data discussed for Ireland in this section are those reported by the DES for ordinary classes. The data reported for other OECD countries are extracted from the OECD's *Education at a Glance* reports and also refer to ordinary classes.

⁸ Note that the OECD rounded the averages from 2011/12. Therefore, for comparability, the figures for Ireland for 2011/12 and 2012/13 were rounded in the current study (the average class size of 24.5 in 2011/12 was rounded to 25, and the average class size of 24.7 in 2012/13 was rounded to 25).

Figure 3
Average class size for single-grade and multi-grade ordinary classes in primary schools in Ireland and all OECD countries from 1999/00 to 2012/13



throughout the period, with only Japan, Turkey and the UK consistently recording larger class sizes. In 1999/00, four countries (Turkey, Japan, the UK and Australia) had larger average class sizes than Ireland. By 2012/13, Ireland's class size was surpassed only by the UK and Japan, both of which had an average class size of 27. Overall, class size in Ireland tended to be between one and two students smaller than in the UK. While both countries experienced little change between 1999/00 and 2012/13, class size in the UK increased between 2010/11 and 2012/13.

Most of the 14 OECD countries displayed little individual variation in average class size over the period, with any fluctuation generally being in the region of one student (Table 1). There are exceptions however; notably, Turkey had a class size in 1999/00 that was on average six students larger than Ireland's. However, by 2012/13, Turkey's class size had reduced to 23, making it two students smaller than Ireland's average class size. Also, in 1999/00, Australia had the same average class size as Ireland, but by 2012/13, its class size had also reduced to 23. Other countries (the UK, France, Italy, and Denmark) evidenced increases in class size between 1999/00 and 2012/13. Denmark is notable among these countries, with class size increasing by two students between 1999/00 and 2012/13. No other country among those examined had an increase in class size of that magnitude when data for those years were compared. Despite this increase, average class size in Denmark was still smaller than in Ireland in every year from 1999/00 to 2012/13. Like Denmark, average class sizes in Luxembourg, Italy, Austria, and Belgium were consistently below the OECD average from 1999/00 to 2012/13, and hence were consistently smaller than those observed for Ireland (Table 1).

A summary of Ireland's relative rank among OECD countries over the period 1999/00 to 2012/13 is shown in Table 2. Ireland ranked between eighth and tenth in ascending order among 12 countries (i.e., Ireland had the eighth to tenth smallest classes). Ireland's relative position slipped from eighth in 1999/00 to 2001/02, to ninth in 2002/03 to 2010/11, and to tenth in 2011/12 to 2012/13. However, Ireland's slippage to tenth place between 2010/11 and 2012/13 appears attributable to progress made by Turkey in lowering its average class size during the same period. Nonetheless, the data suggest that little progress was made in lowering class size (in all ordinary classes) in Ireland over the 14-year period. Little fluctuation in class size is evident, and class size in 2012/13 was larger (albeit slightly) than it

Table 1
Average class size for single-grade and multi-grade ordinary classes in primary schools in 14 OECD countries and the OECD average from 1999/00 to 2012/13 (See Appendix)

	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
Australia	24.9	24.9	24.9	22.7	24.2	24.0	23.3	23.3	23.2	23.2	23.2	23.0	23.0	23.0
Austria	19.9	19.4	20.0	20.0	20.1	20.0	19.6	19.9	19.3	18.8	18.4	18.2	18.0	18.0
Belgium	20.2	20.1	20.0	19.9	20.3	20.4	19.9	19.9	19.7	19.6	20.6	20.6	21.0	20.0
Denmark	19.0	19.0	19.4	19.7	19.8	19.9	20.0	20.0	20.0	20.0	19.9	20.6	21.0	21.0
France	22.3	22.3	22.3	22.3	m	m	22.4	22.6	22.7	22.6	22.6	22.7	23.0	23.0
Ireland	24.8	24.5	24.2	24.0	24.3	24.3	24.5	24.5	24.3	24.2	24.5	24.3	25.0	25.0
Italy	18.1	18.2	18.1	18.0	18.3	18.3	18.4	18.6	18.6	18.7	18.8	18.9	19.0	19.0
Japan	28.9	28.8	28.7	28.6	28.5	28.3	28.2	28.1	28.0	28.0	27.9	27.9	28.0	27.0
Luxembourg	15.5	15.5	15.6	15.5	15.6	15.6	15.6	15.6	15.6	15.3	15.3	15.4	15.0	15.0
Netherlands	m	m	m	m	m	m	m	m	22.4	22.4	22.4	m	m	23.0
Norway	19.3	19.3	m	m	m	m	m	m	m	m	m	m	m	m
Turkey	30.9	29.9	29.6	26.9	26.7	27.5	27.5	27.5	27.3	25.6	26.3	26.3	24.0	23.0
UK	26.8	26.4	26.0	m	26.0	25.8	25.8	25.8	25.7	25.7	25.8	26.0	26.0	27.0
US	m	m	22.0	22.0	23.6	23.6	23.6	23.6	23.8	23.8	20.3	20.3	22.0	22.0
OECD Average	22.1	22.0	21.9	21.4	21.5	21.7	21.5	21.4	21.6	21.4	21.3	21.3	21.0	21.0

m = missing

had been in any other year since 1999/00. Furthermore, additional data from the DES indicate that class size in Ireland increased (by 0.1) annually from 2012/13 to 2014/15 (DES, 2014; 2015).

Overall, average class size in Ireland does not compare favourably with class size in countries such as Luxembourg, Italy, and Austria. Among all the countries studied, these countries consistently had average class sizes of around 20 or fewer students, which is within the optimal class size range suggested by the literature (Glass & Smith, 1979; Schanzenbach, 2014; Zyngier, 2014). Nonetheless, the data show that since 1999/00, class size has been consistently smaller in Ireland than in the UK, Ireland's nearest neighbouring OECD country.

STUDENT-TEACHER RATIO IN IRELAND AND OTHER OECD COUNTRIES

As with the earlier analysis of student-teacher ratio in the current study, the emphasis in this section is on the trend for Ireland from 2009/10 onwards, as the data for these years more accurately reflect the reality of student-teacher ratio in primary schools in Ireland (DES, personal communication, May 2016). Nonetheless, data for Ireland are presented from 1987/88 onwards in order to provide some framework for comparison of the trend in student-teacher ratio in Ireland relative to the OECD average. Furthermore, Figure 4 presents student-teacher ratio in Ireland (public primary schools) using DES data (1987/88 to 2014/15), and the OECD average (public and private schools) from 1987/88 to 2012/13. For illustrative purposes, the OECD data for student-teacher ratio in Ireland (public and private schools) from 1987/88 to 2011/12 are also presented in Figure 4.⁹

As discussed earlier, student-teacher ratio in Ireland decreased considerably from the late 1980s, and as Figure 4 shows, this trend is clear when both public schools, and public and private schools combined, are considered. During the same period, the OECD average also followed an overall downward trend, but began from a considerably lower point than Ireland (a student-teacher ratio of 18:1 for the OECD average in 1987/88 versus 26.7:1 for public schools in Ireland). In 1987/88, student-teacher ratio in Ireland was around eight students larger than the OECD average, but by 2012/13, this difference had reduced to around one student. As can be seen in Figure 4, student-teacher ratio in Ireland began to approach the OECD average from the early- to mid-2000s onwards.

⁹ The majority of primary schools in Ireland are public primary schools.

Table 2
Ascending rank order of average class size for single-grade and multi-grade ordinary classes in primary schools for 12 OECD countries from 2000/01 to 2012/13 (See Appendix)*

	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
Australia	9	9	9	8	8	8	7	7	7	7	8	8	7	7
Austria	4	4	4	5	4	4	3	3	3	3	2	2	2	2
Belgium	5	5	5	4	5	5	4	4	4	4	6	5	4	4
Denmark	3	3	3	3	3	3	5	5	5	5	4	6	5	5
France	7	7	7	7	6	6	6	6	6	6	7	7	8	8
Ireland	8	8	8	9	9	9	9	9	9	9	9	9	10	10
Italy	2	2	2	2	2	2	2	2	2	2	3	3	3	3
Japan	11	11	11	12	12	12	12	12	12	12	12	12	12	11
Luxembourg	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Turkey	12	12	12	11	11	11	11	11	11	10	11	11	9	9
UK	10	10	10	10	10	10	10	10	10	11	10	10	11	12
US	6	6	6	6	7	7	8	8	8	8	5	4	6	6

* Values in bold are estimated. Countries with 55% or more missing data were removed (the Netherlands and Norway).

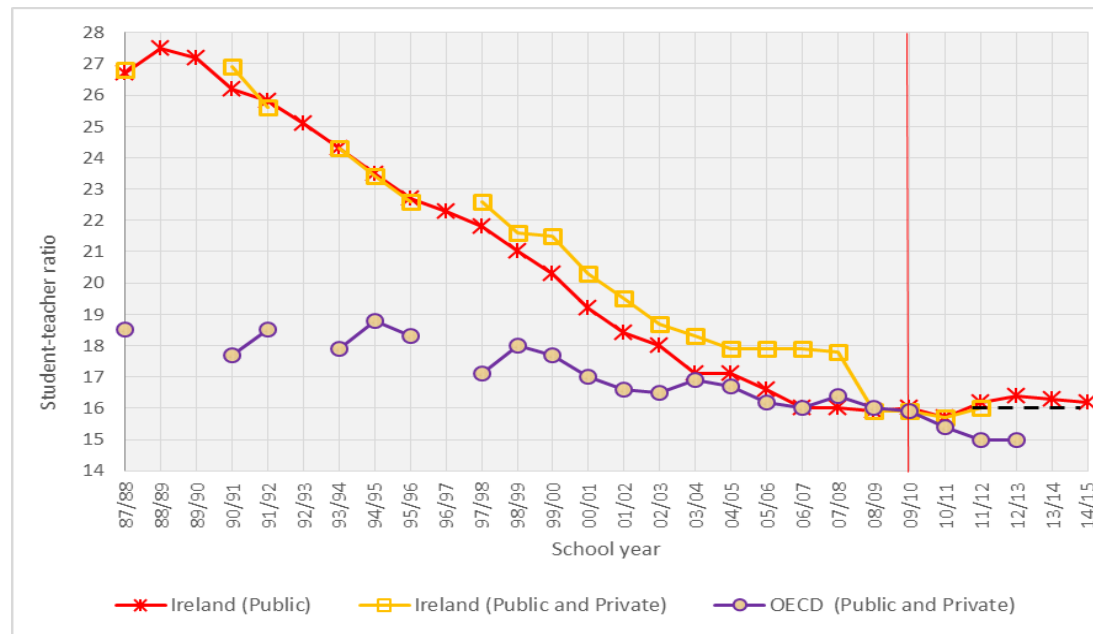
The vertical line in Figure 4 marks the separation of the data for Ireland from 1987/88 to 2009/10 and from 2009/10 onwards arising from changes in methodology affecting the calculation of student-teacher ratio. Student-teacher ratio for primary schools in Ireland (16:1) was just above the OECD average (15.9:1) in 2009/10. Between 2009/10 and 2012/13 the OECD average student-teacher ratio reduced by almost one student (15.9:1 to 15:1), whereas student-teacher ratio in Ireland increased by 0.4 (16.4:1 in 2012/13). However, if the data for Ireland are rounded from 2011/12, as are the OECD data, then the student-teacher ratio in Ireland appears the same in 2011/12 and 2012/13 as it was in 2009/10 (16:1). The effect of this rounding is illustrated by the final data points on the broken line in Figure 4. After 2012/13, student-teacher ratio in primary schools in Ireland decreased year-on-year by 0.1 to reach 16.2:1 in 2014/15. Again, if rounding is used, the student-teacher ratio appears as stable at 16:1 between 2011/12 and 2014/15. Figure 4 clearly shows the convergence of student-teacher ratio in Ireland and the OECD average in 2009/10 and the small divergence that occurred thereafter (regardless of rounding).

To gain further insight into how Ireland's student-teacher ratio compares to those of its OECD counterparts, data for 16 OECD countries (public and private) are presented alongside data for Ireland (public), at (mainly) three-year intervals from 1987/88 to 2012/13 (Table 3). For comparability with the OECD data, the figure for student-teacher ratio in Ireland in 2012/13 is rounded from 16.4 to 16. Also, as before, the most accurate data for Ireland are those for 2009/10 onwards. Nonetheless, Table 3 gives some indication of Ireland's position relative to other OECD countries from 1987/88 to 2009/10, as well as from 2009/10 to 2012/13.

The ratio of students to teaching staff among the OECD countries studied ranged from 9:1 for Luxembourg (2012/13) to 31.1:1 for Turkey in 1987/88 (Table 3). Notably, Ireland had the second largest student-teacher ratio in 1987/88 (26.7:1), surpassed only by Turkey (31.1:1), while the OECD average was 18.5:1. Ireland experienced a downward trend in student-teacher ratio after 1987/88, and by 2009/10, this ratio had reduced by more than 10 students to 16:1. During the period 1987/88 to 2009/10, the only other countries to evidence a large reduction in student-teacher ratio were Turkey and New Zealand.

As described previously, Ireland experienced slight increases in student-teacher ratio after 2010/11, but when the figures are rounded, student-teacher ratio appears as stable from 2011/12 onwards. During the period 2009/10 to

Figure 4
Student-teacher ratio in Ireland for public primary schools (DES data), public and private primary schools combined (OECD data),** and all OECD countries (OECD data) from 1987/88 to 2014/15*



* The broken line for Ireland (public schools) represents rounded data for public schools in Ireland.

** The 2005/06 figure for Ireland (public and private) is estimated.

2012/13, a number of countries (the UK, France, the Netherlands, Australia, the US, Belgium, Sweden, and Italy) experienced an overall upward trend in student-teacher ratio, while others (Turkey, Japan, New Zealand, Norway and Luxembourg) evidenced some reduction in student-teacher ratio. Out of 15 countries for which 2012/13 data were available, five countries (the UK, Turkey, France, Japan, and the Netherlands) had larger student-teacher ratios than Ireland (Table 3). Seven countries (Luxembourg, Norway, Italy, Austria, Sweden, Belgium, and the US) had a student-teacher ratio that was smaller than Ireland's, and in all of these seven countries, the student-teacher ratio was at or below the OECD average (15:1). As Table 3 shows, the available data suggest that from 2009/10 onwards, Luxembourg had the smallest student-teacher ratio among the countries examined, and this was smaller than Ireland's student-teacher ratio by around six students.

The relative position of 15 OECD countries, including Ireland, can be examined in further detail in Table 4, which presents the ascending rank order of student-teacher ratio at three-year intervals from 1987/88 to 2012/13. This shows that Belgium topped the ranking with the smallest student-teacher ratio from 1987/88 to 1990/91, Italy from 1994/95 to 2006/07, and Luxembourg from 2009/10 onwards, while Turkey ranked in fifteenth place with the largest student-teacher ratio for the majority of the period (1987/88 to 2009/10). Ireland's ranking ranged from tenth place to fourteenth place, but from 2009/10 onwards (when the data are most accurate), Ireland ranked tenth out of the 15 countries examined. However, Table 4 also shows that Ireland's relative position was more favourable than that of the UK throughout the period. Over time the UK slipped to fifteenth position in 2012/13. This drop appears to be partly due to progress made by Turkey in reducing student-teacher ratio, and also to increases in student-teacher ratio in the UK between 2010/11 and 2012/13 (Table 3). Indeed, student-teacher ratio in the UK increased by about one student between 2009/10 and 2012/13, and this also coincided with the increase in class size depicted in Figure 4. In 1997/98, student-teacher ratio in the UK (22:1) and Ireland (19.8:1) were broadly similar, but from 2001/00 onwards, the gap widened between them, so that in 2012/13 the ratio of students to teachers in Ireland (16:1) was five students smaller than in the UK (21:1). With rounding applied, student-teacher ratio in the UK in 2012/13 was back at the level it was in 1987/88 (21).

Table 3
Student-teacher ratio in 17 OECD countries and the OECD average at three-year intervals from 1987/88 to 2012/13 (See Appendix)

	87/88	90/91	94/95*	97/98	00/01	03/04	06/07	09/10	12/13
Sweden	11.1	10.4	12.3	13.4	12.4	12.1	12.3	11.7	13.0
Austria	11.3	10.8	12.9	12.7	14.3	15.1	13.6	12.2	12.0
Denmark	11.7	11.1	11.1	m	10.0	m	m	m	m
Italy	12.8	m	11.0	m	10.8	10.7	10.5	11.3	12.0
Luxembourg	13.7	m	m	m	11.0	m	11.2	10.1	9.0
Canada	16.6	m	16.7	21.0	18.3	m	m	m	m
France	17.0	22.8	19.5	m	19.5	19.4	19.7	18.7	19.0
US	17.5	15.2	17.1	16.5	16.3	15.0	14.6	14.5	15.0
Australia	18.2	18.5	18.1	17.9	17.0	16.4	15.9	15.7	16.0
Netherlands	19.1	19.7	m	17.8	17.2	15.9	15.6	15.7	17.0
New Zealand	19.8	m	22.3	24.7	19.6	16.7	17.5	16.2	16.0
UK	21.4	21.5	21.0	22.0	20.5	21.1	19.4	19.8	21.0
Japan	21.5	20.3	19.5	21.4	20.6	19.6	19.0	18.4	17.0
Ireland	26.7	26.2	23.5	21.8	19.2	17.1	16.0	16.0	16.0
Turkey	31.1	30.4	27.7	m	29.8	26.5	26.2	21.7	20.0
Belgium	m	9.7	12.8	14.0	13.4	12.9	12.6	12.4	13.0
Norway	m	10.8	m	12.6	11.6	11.9	11.0	10.5	10.0
OECD Average	18.5	18.5	18.8	17.7	17.0	16.9	16.0	15.9	15.0

m = missing.

*Data were not available for every three-year interval.

Table 4

*Ascending rank order of student-teacher ratio for 14 OECD countries (public and private primary schools) and Ireland (public primary schools)**

	87/88	90/91	94/95	97/98	00/01	03/04	06/07	09/10	12/13
Australia	9	8	8	9	8	9	9	8	8
Austria	4	3	6	4	6	7	6	5	3
Belgium	1	1	5	6	5	5	5	6	5
France	7	13	11	10	11	12	14	13	13
Ireland	14	14	14	12	10	11	10	10	10
Italy	5	5	1	1	1	1	1	3	4
Japan	13	10	10	11	14	13	12	12	11
Luxembourg	6	6	4	2	2	3	3	1	1
Netherlands	10	9	9	8	9	8	8	9	12
New Zealand	11	11	13	14	12	10	11	11	9
Norway	2	4	2	3	3	2	2	2	2
Sweden	3	2	3	5	4	4	4	4	6
Turkey	15	15	15	15	15	15	15	15	14
UK	12	12	12	13	13	14	13	14	15
US	8	7	7	7	7	6	7	7	7

* Values in bold are estimated. Countries with 55% or more missing data were removed (Canada and Denmark).

CONCLUSION

The aim of this study was to examine recent trends in class size and student-teacher ratio in Ireland and to compare these trends to those of other OECD countries. The findings regarding class size revealed that some progress was made in this area in Ireland during the early- to mid-2000s, but that this eroded to some extent after 2008/09, so that from 2012/13, class size was almost the same as it was at the beginning of the 2000s. This erosion appears to have impacted junior classes in particular, which in 2014/15 were more similar in size to senior classes than in any other year examined. When both single-grade and multi-grade classes were considered, little fluctuation in class size in primary schools in Ireland was

evident over the period examined, and class size in 2012/13 was almost the same as it was in 1999/00. In comparison, the OECD class size average decreased by one student over that period. In all years examined, class size in Ireland exceeded the OECD average by between two and four students, with the greatest difference (four students) occurring in 2012/13, the most recent year for which data were available. Furthermore, classes in Ireland were larger than in most of the OECD countries examined, with Ireland consistently ranking between eighth and tenth position. However, it should be recalled that the period of interest featured a severe economic recession alongside an 18.5% increase in enrolments and that factors such as these are likely to have impeded the implementation of policy in this area.

The findings regarding student-teacher ratio revealed a greater magnitude of change than in class size in Irish primary schools. Ireland's student-teacher ratio decreased substantially over time, and was close to or at the OECD average from the early- to mid-2000s to 2009/10 before diverging again (slightly) thereafter. Nonetheless, Ireland's relative position changed little from 1987/88 to 2012/13. During this period, Ireland had one of the largest student-teacher ratios among the OECD countries studied, and around two-thirds of countries consistently had smaller ratios. However, compared to other countries (e.g., the UK), Ireland appears to have made considerable progress in reducing its student-teacher ratio over time. The only other country to evidence similar progress is Turkey (and to some extent New Zealand).

In conclusion, despite considerable progress in recent decades in reducing class size and student-teacher ratio at primary level in Ireland, both remain above the OECD average, while Ireland consistently ranks more poorly on both than many of its OECD counterparts. The analyses presented here, while indicative of broad patterns in Ireland and in other OECD countries, have several limitations. For example, it is not possible to determine the extent to which reductions in multi-grade classes arising from rationalisation through amalgamations and closures impacted on the size of single-grade classes, possibly masking any real reductions. Also, the extent to which multi-grade classes feature in other countries is not known, as comparative data are not readily available. A further limitation that impacts on the comparability of the data presented relates to differences in the inclusion criteria that apply to schools across countries in the calculation of class size and student-teacher ratio as published in *Education at a Glance*. Also, any attempt to examine class size and student-teacher

ratio based on school type or characteristics is beyond the scope of the current paper. In Ireland, for example, government policy has tended to favour class-size reductions in schools identified as serving students from disadvantaged backgrounds. One of the provisions of the most recent programme aimed at addressing problems associated with disadvantage (*Delivering Equality of Opportunity in Schools* or *DEIS*) allows schools with concentrations of students from disadvantaged backgrounds to operate class sizes with a maximum of 20 students for the first four years of primary school (DES, 2005). Findings from the evaluation of the *DEIS* programme, in which the size of junior classes in *DEIS* and non-*DEIS* schools was compared, suggested that this policy had been successful in positively discriminating towards *DEIS* schools (Weir & McAvinue, 2012). Comparable analyses of more recent class-size data are currently being carried out as part of the *DEIS* evaluation. Despite the limitations of the existing data, it is important to continue to monitor trends in class size and student-teacher ratio in order to inform policy in this area. It is worth noting that the current Programme for Government states a general commitment to “reduce primary school class size” (Department of the Taoiseach, 2016, p. 87).

Another aspect of the class-size issue which has received much attention from researchers is the extent to which class size is important in terms of student outcomes. Further research in this area could be done using existing data from sources such as *Education at a Glance* to examine the relationship over time between class size, student-teacher ratio and student outcomes in international studies at primary level such as *TIMSS* (*Trends in International Mathematics and Science Study*) and *PIRLS* (*Progress in International Reading Literacy Survey*).

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APPENDIX

The 17 countries included in this study are Australia, Austria, Belgium, Canada, Denmark, France, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Sweden, Turkey, the United Kingdom (UK), and the United States (US). Canada, New Zealand and Sweden were omitted from the comparison on class size, because data for these countries were not published in any of the years in question. Therefore, average class size is compared for 14 OECD countries including Ireland. For the ranking of countries by average class size, countries with 55% missing data or more were removed. Hence, two countries (the Netherlands and Norway) were removed, and 12 countries (including Ireland) were retained for ranking. All 17 countries were included in the comparison of student-teacher ratio. However, for the ranking of countries by student-teacher ratio, countries with 55% missing data or more were removed. Hence, Canada and Denmark were omitted, and 15 countries (including Ireland) were included.