

## Teacher salary costs per student in elementary and secondary education, 2004-2005 (a comparison of Québec and OECD countries)

### Introduction

Teachers' salaries are the largest single expenditure in the field of education. This information bulletin examines teacher salary costs per student, and the factors that determine those costs. The goal is to compare the situation of school boards in Québec with the situation in the OECD countries.

### Teacher salary costs per student

It is not currently possible to obtain comparable hard data on teacher salary costs per student, but the OECD has developed a method for estimating the costs in individual countries using four elements: the annual statutory salaries of teachers, the intended annual hours of instruction (the hours of instruction students are required to receive), the annual number of teaching hours required of full-time teachers and class size.<sup>1</sup>

To compare the situation in Québec with the average in OECD countries, we applied this methodology to the data for 2004-2005. The basic data used in the comparison came from *Education at a Glance 2007: OECD Indicators*, and the difference between teacher salary costs per student in Québec and the average for the other countries considered was examined in light of the four explanatory factors.<sup>2</sup>

The data in the OECD publication are given in US dollars, but for this comparison of teacher salary costs per student, all data are expressed in Canadian dollars.<sup>3</sup> In addition, for the purposes of this study, the situation in Québec is compared with the OECD average and also with a second average, established by the author, that excludes certain countries with a low GDP per capita. In the remainder of the text, all references are to this second, adjusted average.

Before analyzing the results of the comparison, we will present the factors used to estimate teacher salary costs per student in the countries under examination and in Québec.

1. See Appendix 1.

2. A similar calculation for each OECD country (with each country compared with the average for all countries) is found in a joint publication of the International Labour Office (ILO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO): Maria Teresa Siniscalco, International Labour Office/UNESCO, *A statistical profile of the teaching profession*, 2002. The data in the publication covers the year 1999.

3. US dollars are converted into Canadian dollars using the purchasing power parities (PPPs) produced by the OECD. "Purchasing Power Parities (PPPs) are the rates of currency conversion that equalize the purchasing power of different currencies. This means that a given sum of money, when converted into different currencies at the PPP rates, will buy the same basket of goods and services in all countries. Thus, PPPs are the rates of currency conversion which eliminate differences in price levels between countries." (OECD, *National Accounts*).

### Statutory teachers' salaries

To compare teachers' salaries, the OECD uses various indicators, including starting salary (at the beginning of a teaching career), salary after 15 years, maximum salary (at the top of the pay scale), and salary expressed as a percentage of GDP per capita. These salaries, set by statutory pay scales, are used in preference to average salaries because they are not influenced by the age distribution of the teacher group. The tables in Appendix 2 give the data for the OECD countries and for Québec in 2004-2005, by educational level: elementary, lower secondary, and upper secondary.

In Québec, the basic salaries and workload of teachers employed by school boards are determined by collective agreements, which establish pay levels based on teachers' schooling and experience. There is a common salary scale for all teachers at all educational levels (preschool, elementary and secondary) and in all areas (general youth education, adult education, vocational training).

The teachers' pay scale in Québec has 17 steps, with entry levels depending on schooling. A new teacher with the minimum requirement of a Bachelor's degree (4 years of university education) began at Step 3, with a starting salary of \$36 196 in 2004-2005. The maximum pay level was \$61 561, reached after 15 years of teaching (each step is equivalent to one year of recognized experience).

In the OECD countries, unlike Québec, the basic annual teachers' salary is generally higher at the lower secondary level than at the elementary level, and higher at the upper secondary level than at the lower secondary level. The starting salary and maximum salary in Québec are lower than the adjusted average for OECD countries, at all educational levels, whereas the salary after 15 years is higher in Québec, at all educational levels. This may be explained by the fact that teachers in Québec reach the top of the pay scale with 15 years of recognized experience, while teachers in OECD countries only reach this point after an average of 23 years.

In lower secondary education, the basic annual salary of teachers with 15 years experience, expressed as an adjusted average for OECD countries in 2004-2005, was \$53 873, compared with \$61 561 in Québec. In 2004-2005, at the lower secondary level, the only countries that paid higher salaries than Québec were Germany, Korea, Luxemburg and Switzerland.

At this point, we must make an important observation concerning the purchasing power parity index (PPP) used to convert salaries into Canadian dollars. PPPs allow conversion into a single currency, while taking into account the cost of living in the countries concerned. However, since the cost of living in Québec is well below the average in the rest of Canada (by about 10% in 2004-2005), using a PPP representing Canada as a whole in comparisons between Québec and OECD countries underestimates the relative pay of teachers in Québec compared with the OECD countries.

Another indicator may be used to get around this problem: the ratio between teachers' salaries and per-capita GDP. This ratio takes into account the difference in relative wealth, and also the difference in the cost of living. Since the cost of living affects both the numerator and denominator of the ratio between teachers' salaries and per-capita GDP, there is no need to take the cost of living into account in a separate calculation.

With respect to the adjusted average salary for the OECD countries, the ratio between the basic salary with 15 years experience and the per-capita GDP is between 1.25 and 1.40, depending on the educational level (see Appendix 2). In Québec, the ratio was far higher, at 1.71 in 2004-2005.

## Annual hours of instruction

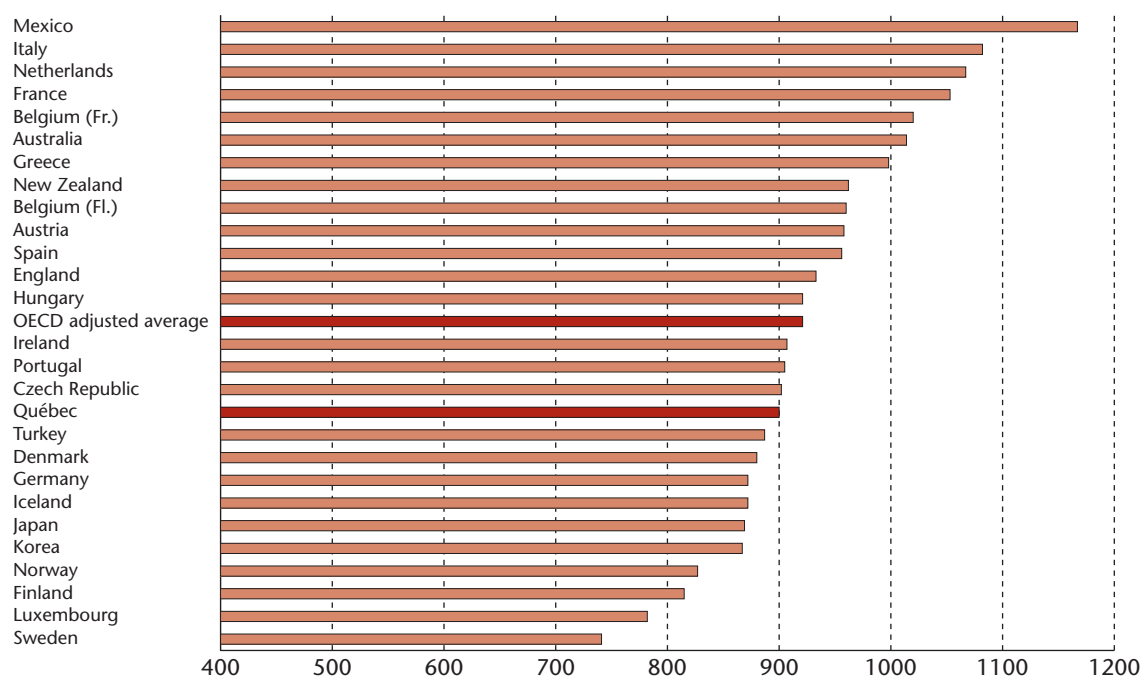
For the purposes of this bulletin, the expression “annual hours of instruction” means the number of hours of instruction that students are required to receive each year.

The data for the OECD countries in 2004-2005 are available by age group (see Appendix 3). The average number of hours of instruction for the 9-11 age group was 845 per year, while that for the 12-14 age group was 921 hours. For the purpose of estimating teacher salary costs per student using this data, we will consider 845 hours of instruction the average for elementary-level students and 921 hours of instruction the average for secondary-level students (lower and upper levels).

In Québec, in 2004-2005, the number of annual hours of instruction was 846 at the elementary level and 900 at the secondary level. It is important to note that in 2006-2007, the annual hours of instruction increased to 900 at the elementary level. Graph 1 shows the situation in Québec compared with the OECD countries (for the lower secondary level).

Among the countries for which the information is available, 15 have more annual hours of instruction than Québec at the lower secondary level, and 10 have fewer annual hours of instruction.<sup>4</sup>

**Graph 1 Annual hours of instruction in public institutions, lower secondary level, Québec and OECD countries, 2004-2005**



Source: See Appendix 3.

<sup>4</sup> Although separate data are available for Flemish-speaking and French-speaking Belgium, the country is counted only once.

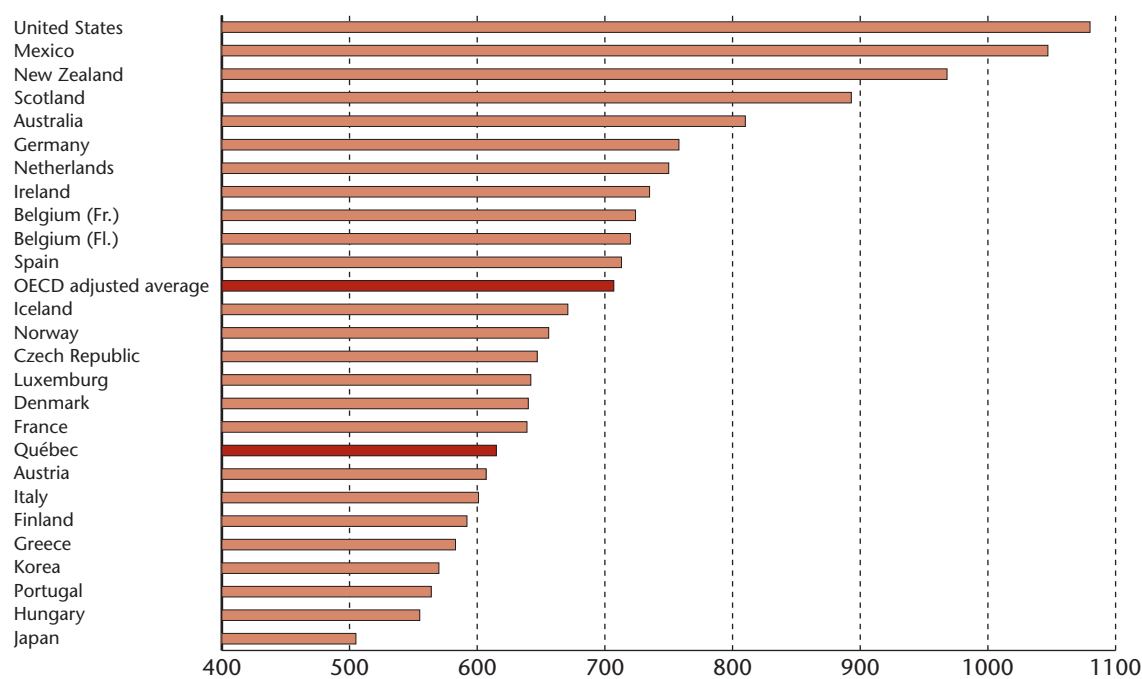
## Annual teaching hours

The OECD defines teaching hours as the number of hours teachers are required to teach each year. The annual teaching hours are calculated by multiplying teaching hours per day by teaching days per year, or by multiplying teaching hours per week by the weeks per year when schools are open for teaching. This element, therefore, does not include the time spent by teachers on other tasks such as class preparation, student support, professional development or staff meetings.

The table in Appendix 4 shows the number of annual teaching hours in the OECD countries, which habitually decreases as one goes up from one educational level to the next. In 2004-2005, the adjusted average for OECD countries was 813 hours at the elementary level, 707 hours at the lower secondary level and 672 hours at the upper secondary level.

In Québec, the annual number of teaching hours was 738 at the elementary level and 615 at the secondary level in 2004-2005, below the OECD average.<sup>5</sup> The gap was particularly wide at the secondary level. Graph 2 compares the situation in Québec with that in the OECD countries for the lower secondary level.

**Graph 2** Number of teaching hours per year, in lower secondary education, Québec and OECD countries, 2004-2005



Source: See Appendix 4.

<sup>5</sup> According to the collective agreements..

Among the countries for which the information is available, 16 had more teaching hours than Québec (at the lower secondary level), and 8 had fewer hours.<sup>6</sup>

### Average class size

Average class size refers to the average number of students per class. An estimate of average class size is obtained by multiplying the student/teacher ratio by the number of hours of instruction and dividing by the hours of teaching.<sup>7</sup>

The table in Appendix 5 shows the student/teacher ratios for the OECD countries by educational level. At the elementary level in Québec, the average number of students per teacher (15.6) is lower than the adjusted average for the OECD countries (16.4), while the reverse is true at the secondary level (14.0 in Québec compared with 12.8 in the OECD countries). The table gives separate data for the lower and upper secondary levels in the OECD countries, but this data is not available for Québec.

In Québec, the average number of students per teacher can be slightly different in the lower and upper secondary school levels due mainly to a difference in enrolment composition. Disabled students or those with learning or adaptation difficulties are found in higher concentrations in the lower secondary school level than in the upper level, while students in vocational training programs are present at the upper secondary school level. Since the student-teacher ratio is smaller for these categories of students, these factors at least partially cancel each other out.

Returning to the question of average class size, in 2004-2005 the average class size at the elementary and secondary levels was estimated to be 17 for the OECD countries. The corresponding figures for Québec were 18 and 20, at the elementary and secondary levels respectively.

## Results

The tables in this section show how each of the four factors detailed above contributes to the gap between teacher salary costs per student in Québec and the OECD average. The data are presented by educational level (elementary, lower secondary and upper secondary), and by salary type (starting salary, salary with 15 years experience, maximum salary).

To properly understand the role played by each factor in educational costs, we propose the following simulation. Imagine two countries with education systems that are identical, except for one of the four factors. If the statutory teachers' salaries are different, the country with the higher salaries will have a higher per-student cost. If the number of hours of instruction is different, the country where students have fewer hours of instruction will need fewer teachers to provide educational services, and will have a lower per-student cost. If the number of teaching hours is different, the country where teachers teach fewer hours will need to hire more teachers to cover the whole teaching load, and the per-student cost will be higher. Last, if the average class size is different, the country with more students per class will have a lower per-student cost.

6 Although separate data are available for Flemish-speaking and French-speaking Belgium, the country is counted only once.

7 See Appendix 1.

## Elementary level

Returning to the comparison between salaries in Québec and the OECD average, Table 1 shows the results at the elementary level. Teacher salary costs per student are higher in Québec than the adjusted OECD average, whatever the type of salary considered.

For the starting salary and the salary after 15 years, the cost is higher in Québec mainly because of two factors: higher statutory salaries and fewer teaching hours. Larger class sizes in Québec help to reduce the gap, while the hours of instruction do not have a significant impact, because the number of hours in Québec is roughly the same as the adjusted OECD average.

For the maximum salary, only one factor raises the cost in Québec: the smaller number of teaching hours.

**Table 1 Influence of four factors on the difference between teacher salary costs per student in Québec and the adjusted average for OECD countries, in public elementary education, by type of salary, 2004-2005**

	Starting salary	Salary after 15 years	Maximum salary
Teacher salary costs per student in Québec (\$)	2 320	3 946	3 946
Teacher salary costs per student in OECD countries (\$)	2 178	3 115	3 777
<b>Difference (\$)</b>	<b>142</b>	<b>831</b>	<b>169</b>
<b>Difference (%)</b>	<b>7</b>	<b>27</b>	<b>4</b>
<b><i>Difference attributable to each factor (\$):</i></b>			
Statutory teachers' salaries	30	655	-24
Hours of student instruction	0	4	4
Teaching hours	218	341	374
Average class size	-108	-169	-185
<b>Total</b>	<b>142</b>	<b>831</b>	<b>169</b>

Source: Ministère de l'Éducation, du Loisir et du Sport, Direction de la Recherche, des Statistiques et de l'Information.

## Secondary (lower level)

First of all, it will be observed that teacher salary costs per student were higher at the secondary level than at the elementary level. This is mainly because of the lower number of teaching hours at the secondary level. In Québec, in 2004-2005, the number of teaching hours was 738 at the elementary level and 615 at the secondary level, a difference of 20%. This difference is, on average, smaller in the OECD countries (see Appendix 4).

Table 2 presents the results of a comparison between teacher salary costs per student for lower secondary education in Québec and the average cost in OECD countries. For the starting salary and maximum salary, teacher salary costs per student are lower in Québec than the OECD average. Three factors reduce the cost in Québec: lower statutory salaries, fewer hours of instruction, and larger class sizes. Only one factor increases the cost: fewer teaching hours in Québec.

Teacher salary costs per student are higher in Québec for teachers with 15 years of experience. Two factors—higher statutory salaries and fewer teaching hours—increase the cost, and two factors—fewer hours of instruction and larger class sizes—decrease it.

**Table 2 Influence of four factors on the difference between teacher salary costs per student in Québec and the adjusted average for OECD countries, in public secondary education (lower level), by type of salary, 2004-2005**

	Starting salary	Salary after 15 years	Maximum salary
Teacher salary costs per student in Québec (\$)	2 585	4 397	4 397
Teacher salary costs per student in OECD countries (\$)	3 020	4 112	4 969
<b>Difference (\$)</b>	<b>-435</b>	<b>285</b>	<b>-572</b>
<b>Difference (%)</b>	<b>-14</b>	<b>7</b>	<b>-12</b>
<b><i>Difference attributable to each factor (\$):</i></b>			
Statutory teachers' salaries	-250	570	-262
Hours of student instruction	-65	-98	-108
Teaching hours	393	596	656
Average class size	-513	-783	-858
<b>Total</b>	<b>-435</b>	<b>285</b>	<b>-572</b>

Source: Ministère de l'Éducation, du Loisir et du Sport, Direction de la Recherche, des Statistiques et de l'Information.

## Upper secondary level

Table 3 shows teacher salary costs per student in Québec at the upper secondary level compared with the adjusted OECD average, which is higher for all salary types.

With regard to the starting salary and the maximum salary, the lower salary cost in Québec reflects three factors: lower statutory salaries, fewer hours of instruction, and larger class sizes. Only one factor increases the cost: fewer hours of teaching.

As for the salary after 15 years, two factors underlie lower teacher salary costs per student in Québec: fewer hours of instruction and larger class sizes. Two other factors, which cost more in Québec than in the OECD countries, help reduce the difference: higher statutory salaries and fewer hours of teaching.

**Table 3 Influence of four factors on the difference between teacher salary costs per student in Québec and the adjusted average for OECD countries, in public secondary education (upper level), by type of salary, 2004-2005**

	<b>Starting salary</b>	<b>Salary after 15 years</b>	<b>Maximum salary</b>
Teacher salary costs per student in Québec (\$)	2 585	4 397	4 397
Teacher salary costs per student in OECD countries (\$)	3 391	4 752	5 718
<b>Difference (\$)</b>	<b>-806</b>	<b>-355</b>	<b>-1 321</b>
<b>Difference (%)</b>	<b>-24</b>	<b>-7</b>	<b>-23</b>
<b><i>Difference attributable to each factor (\$):</i></b>			
Statutory teachers' salaries	-398	276	-631
Hours of student instruction	-69	-106	-116
Teaching hours	265	407	449
Average class size	-604	-932	-1 023
<b>Total</b>	<b>-806</b>	<b>-355</b>	<b>-1 321</b>

Source: Ministère de l'Éducation, du Loisir et du Sport, Direction de la Recherche, des Statistiques et de l'Information.

## Conclusion

At the elementary level, teacher salary costs per student in Québec are higher than the adjusted average for OECD countries, for all types of salary. At the lower secondary level, the costs are either higher or lower, depending on the type of salary. At the upper secondary level, teacher salary costs are lower in Québec than the adjusted average for OECD countries for the corresponding educational level, for all types of salary.

Québec's situation compared to the adjusted average for OECD countries, at each salary level, can be explained by various factors. One of the key factors is that in Québec, pay scales are established for all teachers working at all educational levels, while in the OECD countries, the basic annual salary increases from one educational level to the next (it is higher in the lower level of secondary education than at the elementary level, and higher at the upper secondary level than at the lower level).

The difference at a given educational level, for a given type of salary, depends on the relative importance of various factors, considered as production factors in each case. For example, at the lower secondary level, for salaries after 15 years, the teacher salary cost per students is higher in Québec (\$4 397) than the adjusted average for OECD countries (\$4 112). In this example, two factors increase the cost (higher statutory salaries and fewer hours of teaching) and two factors decrease the cost in Québec (fewer hours of instruction, and larger class sizes). The following table shows the data for the variables considered in this example.



**Table 4** Salary after 15 years, hours of student instruction, teaching hours and average number of students per class in Québec and in the adjusted average for OECD countries, public lower secondary education, 2004-2005

	Québec	Adjusted OECD average
Salary after 15 years (\$)	61 561	53 873
Hours of student instruction	900	921
Teaching hours (teachers)	615	707
Average class size (average number of students per class)	21	17

Sources: See appendices.

The focus here is on the difference between the results for Québec and the adjusted average for OECD countries. Obviously, there are also major differences among those countries concerning the influence of each factor. The appended tables provide data, by country, on statutory salaries, hours of instruction, teaching hours and the student/teacher ratio, at each level of education.

A comparison of the data shows how each country has chosen to manage costs by setting the level of each factor. The combination of factors chosen by an individual country has a direct influence on the costs per student, at a given educational level, and also on the quality of the instruction received by students and the working conditions of their teachers.

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- LESPÉRANCE, André. *Level of Graduation Upon Leaving the Education System*, No. 1, November 1997.
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- DEMERS, Marius. *Educational Spending Relative to the Gross Domestic Product (GDP) in 2004 (A Comparison of Québec and the OECD Countries)*, No. 35, December 2007.

## APPENDIX 1

### Factors explaining differences between regions with regard to teacher salary costs per student

To explain differences between regions with regard to teacher salary costs per student, it is necessary to conduct a comparative analysis of the main factors that influence those costs in each region. The factors are: the level of statutory teachers' salaries, the number of hours of instruction students are required to receive per year, the number of teaching hours teachers are required to provide per year and class size (according to the method established by the OECD).<sup>8</sup>

The equation used is as follows:

$$\text{COS} = \text{SAL} \times \text{STU} \times \frac{1}{\text{TEA}} \times \frac{1}{\text{SIZ}} = \frac{\text{SAL}}{\text{RAT}}$$

where,

$$\text{SIZ} = \text{RAT} \times \frac{\text{STU}}{\text{TEA}}$$

and,

**COS:** teacher salary cost per student

**SAL:** statutory teachers' salary

**STU:** hours of student instruction (annual total)

**TEA:** teaching hours (annual total)

**SIZ:** class size (average number of students per class)

**RAT:** student/teacher ratio

<sup>8</sup> The formulas used to calculate the influence of each factor on the differences between teacher salary costs per student in the various regions considered are not included in this document, but are available upon request.

## APPENDIX 2a

### Annual statutory salaries of teachers in public elementary education in Canadian dollars (converted using the PPP rate), in 2004-2005, OECD countries and Québec

	Starting salary	Salary after 15 years	Maximum salary	Ratio of salary after 15 years to GDP per capita
Australia	38 504	55 431	55 431	1.30
Austria	33 809	44 700	67 304	1.04
Belgium (Fl.)	36 524	51 169	62 392	1.24
Belgium (Fr.)	34 631	48 541	59 212	1.18
<i>Czech Republic</i>	23 276	30 475	36 284	1.19
Denmark	43 071	48 553	48 553	1.14
England	37 425	54 697	54 697	1.33
Finland	34 697	40 437	40 437	1.05
France	28 965	38 962	57 488	1.03
Germany	50 068	62 303	64 963	1.62
<i>Greece</i>	32 223	39 230	47 132	1.06
<i>Hungary</i>	14 746	19 494	25 808	0.89
Iceland	30 114	34 059	39 836	0.75
Ireland	35 186	58 284	66 046	1.20
Italy	30 227	36 562	44 473	1.04
Japan	31 935	59 714	76 184	1.56
Korea	37 663	64 438	103 462	2.34
Luxemburg	61 416	84 576	125 173	0.96
<i>Mexico</i>	15 913	20 943	34 719	1.58
Netherlands	40 173	52 202	58 315	1.19
New Zealand	23 797	46 037	46 037	1.42
Norway	39 159	43 746	48 719	0.74
<i>Poland</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Portugal	24 587	40 273	63 182	1.62
Scotland	37 700	60 150	60 150	1.47
<i>Slovak Republic</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Spain	39 740	46 239	58 177	1.35
Sweden	32 735	38 435	44 610	0.96
Switzerland	50 732	65 813	79 734	1.48
<i>Turkey</i>	22 347	24 429	26 982	2.54
United States	41 827	50 828	n/a	0.97
OECD average	34 593	46 921	56 982	1.28
<b>OECD Adjusted Average*</b>	<b>37 279</b>	<b>51 090</b>	<b>61 938</b>	<b>1.25</b>
<b>Québec</b>	<b>36 196</b>	<b>61 561</b>	<b>61 561</b>	<b>1.71</b>
<b>Qc/OECD Difference* (%)</b>	<b>-3</b>	<b>20</b>	<b>-1</b>	

n/a: Not available

Sources: For the OECD countries: Organisation for Economic Cooperation and Development, *Education at a Glance: OECD Indicators 2007*, Table D3.1 (see N.B.).

For Québec: Ministère de l'Éducation, du Loisir et du Sport, Direction de la recherche, des statistiques et de l'information.

\* The adjusted average excludes countries with a low GDP per capita (in italics: Czech Republic, Greece, Hungary, Mexico, Poland, Slovak Republic and Turkey).

N.B.: In *Education at a Glance*, data on salaries are given in US dollars. For this table, data are given in Canadian dollars, using a purchasing power parity (PPP) index for Canada and the United States (based on OECD data). The averages are arithmetic means (the method used by the OECD).

## APPENDIX 2b

**Annual statutory salaries of teachers in public lower secondary education in Canadian dollars (converted using the PPP rate), in 2004-2005, OECD countries and Québec**

	Starting salary	Salary after 15 years	Maximum salary	Ratio of salary after 15 years to GDP per capita
Australia	38 797	55 559	55 559	1.30
Austria	35 411	48 422	70 050	1.13
Belgium (Fl.)	36 524	51 169	62 392	1.24
Belgium (Fr.)	34 770	49 083	60 131	1.19
<i>Czech Republic</i>	23 276	30 475	36 284	1.19
Denmark	43 071	48 553	48 553	1.14
England	37 425	54 697	54 697	1.33
Finland	40 270	47 615	47 615	1.23
France	32 082	42 080	60 759	1.11
Germany	51 946	63 938	66 749	1.66
<i>Greece</i>	32 223	39 230	47 132	1.06
<i>Hungary</i>	14 746	19 494	25 808	0.89
Iceland	30 114	34 059	39 836	0.75
Ireland	35 186	58 284	66 046	1.20
Italy	32 577	39 826	48 833	1.14
Japan	31 935	59 714	76 184	1.56
Korea	37 507	64 282	103 306	2.33
Luxembourg	88 479	110 598	153 714	1.26
<i>Mexico</i>	20 403	26 637	44 030	2.01
Netherlands	41 549	57 350	63 897	1.31
New Zealand	23 797	46 037	46 037	1.42
Norway	39 159	43 746	48 719	0.74
<i>Poland</i>	n/a	n/a	n/a	n/a
Portugal	24 587	40 273	63 182	1.62
Scotland	37 700	60 150	60 150	1.47
<i>Slovak Republic</i>	n/a	n/a	n/a	n/a
Spain	44 722	51 894	64 767	1.52
Sweden	33 386	39 412	45 112	0.98
Switzerland	58 336	74 945	90 724	1.68
<i>Turkey</i>	n/a	n/a	n/a	n/a
United States	40 211	51 273	n/a	0.98
OECD average	37 150	50 314	61 121	1.30
<b>OECD Adjusted Average*</b>	<b>39 564</b>	<b>58 873</b>	<b>65 088</b>	<b>1.31</b>
<b>Québec</b>	<b>36 196</b>	<b>61 561</b>	<b>61 561</b>	<b>1.71</b>
<b>Qc/OECD Difference* (%)</b>	<b>-9</b>	<b>14</b>	<b>-5</b>	

n/a: Not available

Sources: For the OECD countries: Organisation for Economic Cooperation and Development, *Education at a Glance: OECD Indicators 2007*, Table D3.1 (see N.B.).

For Québec: Ministère de l'Éducation, du Loisir et du Sport, Direction de la recherche, des statistiques et de l'information.

\* The adjusted average excludes countries with a low GDP per capita (in italics: Czech Republic, Greece, Hungary, Mexico, Poland, Slovak Republic and Turkey).

N.B.: In *Education at a Glance*, data on salaries are given in US dollars. For this table, data are given in Canadian dollars, using a purchasing power parity (PPP) index for Canada and the United States (based on OECD data). The averages are arithmetic means (the method used by the OECD).

## APPENDIX 2c

**Annual statutory salaries of teachers in upper secondary education in Canadian dollars (converted using the PPP rate), in 2004-2005, OECD countries and Québec**

	Starting salary	Salary after 15 years	Maximum salary	Ratio of salary after 15 years to GDP per capita
Australia	38 797	55 559	55 559	1.30
Austria	35 674	49 328	73 809	1.15
Belgium (Fl.)	45 329	65 449	78 679	1.59
Belgium (Fr.)	43 335	63 141	76 165	1.53
<i>Czech Republic</i>	23 652	31 030	37 014	1.21
Denmark	42 303	59 114	59 114	1.39
England	37 425	54 697	54 697	1.33
Finland	43 275	54 087	54 087	1.40
France	32 394	42 393	61 102	1.12
Germany	56 179	68 872	71 963	1.79
<i>Greece</i>	32 223	39 230	47 132	1.06
<i>Hungary</i>	17 102	24 384	31 829	1.12
Iceland	32 384	39 887	42 322	0.88
Ireland	35 186	58 284	66 046	1.20
Italy	32 577	40 945	51 057	1.17
Japan	31 935	59 724	78 444	1.56
Korea	37 507	64 282	103 306	2.33
Luxemburg	88 479	110 598	153 714	1.26
<i>Mexico</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Netherlands	41 964	76 754	84 661	1.75
New Zealand	23 797	46 037	46 037	1.42
Norway	41 912	47 140	51 097	0.80
<i>Poland</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Portugal	24 587	40 273	63 182	1.62
Scotland	37 700	60 150	60 150	1.47
<i>Slovak Republic</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Spain	45 684	53 098	66 284	1.55
Sweden	35 422	42 560	48 396	1.06
Switzerland	68 596	87 721	104 691	1.97
<i>Turkey</i>	22 684	24 765	27 318	2.57
United States	40 388	51 215	<i>n/a</i>	0.98
OECD average	38 875	53 954	64 736	1.41
<b>OECD Adjusted Average*</b>	<b>41 368</b>	<b>57 971</b>	<b>69 764</b>	<b>1.40</b>
<b>Québec</b>	<b>36 196</b>	<b>61 561</b>	<b>61 561</b>	<b>1.71</b>
<b>Qc/OECD Difference* (%)</b>	<b>-13</b>	<b>6</b>	<b>-12</b>	

n/a: Not available

Sources: For the OECD countries: Organisation for Economic Cooperation and Development, *Education at a Glance: OECD Indicators 2007*, Table D3.1 (see N.B.).

For Québec: Ministère de l'Éducation, du Loisir et du Sport, Direction de la recherche, des statistiques et de l'information.

\* The adjusted average excludes countries with a low GDP per capita (in italics: Czech Republic, Greece, Hungary, Mexico, Poland, Slovak Republic and Turkey).

N.B.: In *Education at a Glance*, data on salaries are given in US dollars. For this table, data are given in Canadian dollars, using a purchasing power parity (PPP) index for Canada and the United States (based on OECD data). The averages are arithmetic means (the method used by the OECD).

## APPENDIX 3

### Total number of student classroom hours per year in public educational institutions, OECD countries and Québec, 2004-2005

	Average for ages 9-11	Average for ages 12-14
Australia	979	1 014
Austria	812	958
Belgium (Fl.)	835	960
Belgium (Fr.)	930	1 020
<i>Czech Republic</i>	774	902
Denmark	763	880
England	900	933
Finland	673	815
France	894	1 053
Germany	777	872
<i>Greece</i>	928	998
<i>Hungary</i>	718	921
Iceland	792	872
Ireland	941	907
Italy	1 023	1 082
Japan	774	869
Korea	703	867
Luxemburg	847	782
<i>Mexico</i>	800	1 167
Netherlands	1 000	1 067
New Zealand	985	962
Norway	713	827
<i>Poland</i>	n/a	n/a
Portugal	866	905
Scotland	n/a	n/a
<i>Slovak Republic</i>	n/a	n/a
Spain	794	956
Sweden	741	741
Switzerland	n/a	n/a
<i>Turkey</i>	864	887
United States	n/a	n/a
OECD average	839	931
<b>OECD Adjusted Average*</b>	<b>845</b>	<b>921</b>
<b>Québec</b>	<b>846</b>	<b>900</b>

n/a: Not available

Sources: For the OECD countries: Organisation for Economic Cooperation and Development, *Education at a Glance: OECD Indicators 2007*, Table D1.1.  
For Québec: Ministère de l'Éducation, du Loisir et du Sport, Direction de la recherche, des statistiques et de l'information.

\* The adjusted average excludes countries with a low GDP per capita (in italics: Czech Republic, Greece, Hungary, Mexico, Poland, Slovak Republic and Turkey).



## APPENDIX 4

### Number of teaching hours per year for teachers in public educational institutions, OECD countries and Québec, 2004-2005

	Elementary education	Lower secondary education	Upper secondary education, general programs
Australia	888	810	810
Austria	774	607	589
Belgium (Fl.)	806	720	675
Belgium (Fr.)	722	724	664
<i>Czech Republic</i>	813	647	617
Denmark	640	640	560
England	n/a	n/a	n/a
Finland	677	592	550
France	918	639	625
Germany	808	758	717
<i>Greece</i>	780	583	559
<i>Hungary</i>	777	555	555
Iceland	671	671	560
Ireland	915	735	735
Italy	735	601	601
Japan	578	505	429
Korea	810	570	553
Luxemburg	774	642	642
<i>Mexico</i>	800	1 047	848
Netherlands	930	750	750
New Zealand	985	968	950
Norway	741	656	524
<i>Poland</i>	n/a	n/a	n/a
Portugal	855	564	513
Scotland	893	893	893
<i>Slovak Republic</i>	n/a	n/a	n/a
Spain	880	713	693
Sweden	n/a	n/a	n/a
Switzerland	n/a	n/a	n/a
<i>Turkey</i>	639	n/a	567
United States	1 080	1 080	1 080
OECD average	803	707	664
<b>OECD Adjusted Average*</b>	<b>813</b>	<b>707</b>	<b>672</b>
<b>Québec</b>	<b>738</b>	<b>615</b>	<b>615</b>

n/a: Not available

Sources: For the OECD countries: Organisation for Economic Cooperation and Development, *Education at a Glance: OECD Indicators 2007*, Table D4.1.

For Québec: Ministère de l'Éducation, du Loisir et du Sport, Direction de la recherche, des statistiques et de l'information.

\* The adjusted average excludes countries with a low GDP per capita (in italics: Czech Republic, Greece, Hungary, Mexico, Poland, Slovak Republic and Turkey).

## APPENDIX 5

### Student-teacher ratio in public and private educational institutions, OECD countries and Québec, 2004-2005

	Preschool education	Elementary education	Lower secondary education	Upper secondary education general programs	Secondary education, total
Australia	n/a	16.2	n/a	n/a	12.1
Austria	17.0	14.1	10.6	11.3	10.9
Belgium	16.1	12.8	9.4	9.9	9.8
Canada	n/a	n/a	n/a	n/a	n/a
<i>Czech Republic</i>	13.5	17.5	13.5	12.8	13.2
Denmark	6.6	n/a	11.9	n/a	n/a
Finland	12.5	15.9	10.0	18.0	13.9
France	19.3	19.4	14.2	10.3	12.2
Germany	13.9	18.8	15.5	14.0	15.1
<i>Greece</i>	12.5	11.1	7.9	8.8	8.3
<i>Hungary</i>	10.7	10.6	10.4	12.2	11.2
Iceland	n/a	n/a	11.3	10.8	11.2
Ireland	13.9	17.9	n/a	n/a	15.5
Italy	12.4	10.6	10.1	11.0	10.7
Japan	17.4	19.4	15.1	13.0	13.9
Korea	20.2	28.0	20.8	16.0	18.2
Luxembourg	n/a	n/a	n/a	n/a	9.0
<i>Mexico</i>	28.9	28.3	33.7	25.8	30.6
Netherlands	n/a	15.9	n/a	n/a	16.2
New Zealand	9.8	18.1	16.8	12.9	14.8
Norway	n/a	n/a	n/a	n/a	n/a
<i>Poland</i>	17.9	11.7	12.7	12.9	12.8
Portugal	15.4	10.8	8.2	8.0	8.1
<i>Slovak Republic</i>	13.6	18.9	14.1	14.3	14.2
Spain	14.1	14.3	12.5	8.1	10.6
Sweden	11.9	12.2	12.0	14.0	13.0
Switzerland	18.3	14.6	11.7	10.5	11.4
<i>Turkey</i>	19.7	25.8	n/a	16.2	16.2
United Kingdom	16.3	20.7	17.0	11.8	14.1
United States	14.5	14.9	15.1	16.0	15.5
OECD average	15.3	16.7	13.7	13.0	13.4
<b>OECD Adjusted Average*</b>	<b>14.7</b>	<b>16.4</b>	<b>13.1</b>	<b>12.2</b>	<b>12.8</b>
<b>Québec</b>	<b>19.5</b>	<b>15.6</b>	<b>14.0</b>	<b>14.0</b>	<b>14.0</b>

n/a: Not available

Sources: For the OECD countries: Organisation for Economic Cooperation and Development, *Education at a Glance: OECD Indicators 2007*, Table D2.2.

For Québec: Ministère de l'Éducation, du Loisir et du Sport, Direction de la recherche, des statistiques et de l'information.

\* The adjusted average excludes countries with a low GDP per capita (in italics: Czech Republic, Greece, Hungary, Mexico, Poland, Slovak Republic and Turkey).

