Chapter 1

School education in Lithuania

This chapter presents an overview of the economic and demographic context in Lithuania, including the impact of the international financial crisis and mass emigration on the funding and organisation of schooling. It also provides a brief description of the Lithuanian school system for international readers. Finally, it presents evidence on the quality, equity and efficiency of the Lithuanian school system.

Economic and demographic context

Impact of the international financial crisis and the convergence programme

The Lithuanian economy experienced a major recession during the international financial crisis, much more so than on average in the OECD (Figure 1.1). The decline in real Gross Domestic Product (GDP) was one of the sharpest across the European Union (EU) in 2009, but in recent years it has seen steady growth of around 3% (European Commission, 2015a; Figure 1.1). Still, the European Commission (2015a) points out Lithuania's vulnerability to adverse developments in the international economy and advocates further prudent fiscal policy (the current level of public debt is twice as high as before the financial crisis).

Figure 1.1. **Annual GDP growth (%)**
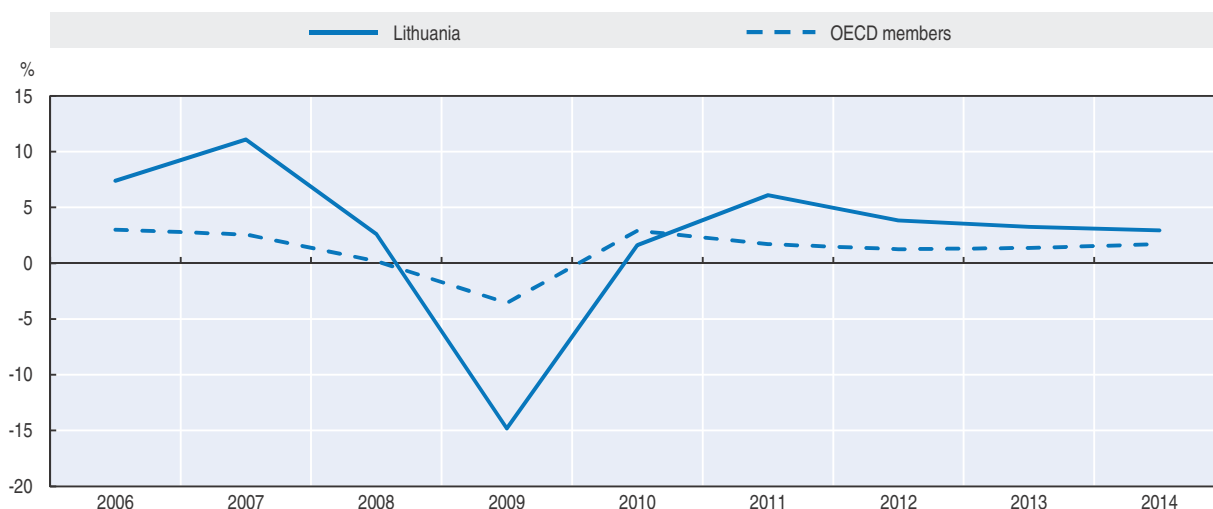
The Lithuanian government adopted the Convergence Programme of Lithuania for 2014 which envisages a reduction of total public expenditure from 42.2% of GDP in 2010 to 30.9% of GDP in 2020 in an overall budgetary projection for financial sustainability in the public sector (Table 1.1). Within these projections, education costs will be reduced from 6.2% of GDP in 2010 to 4.8% of GDP in 2020 (Table 1.1). Although an initial reduction in pension costs is budgeted to 2020, these will start to rise steadily thereafter through to 2060, with a further decrease to education costs projected for 2040 and 2050. In 2012, total public expenditure was 36.1% of GDP, including educational expenditure equivalent to 5.6% of GDP (Government of the Republic of Lithuania, 2014, Table 13).

Table 1.1. **General government finances: Long-term sustainability**

	2007	2010	2020	2030	2040	2050	2060
Total expenditure	**34.6**	**42.2**	**30.9**	**31.7**	**32.1**	**33.2**	**34.7**
of which: Age-related costs	17.3	21.1	18.0	18.8	19.3	20.3	21.8
1. Pensions	6.6	8.6	6.4	7.1	8.0	8.7	9.6
Social security pensions	6.6	8.6	6.4	7.1	8.0	8.7	9.6
Old-age pensions	4.8	6.2	4.5	5.3	6.1	6.8	7.8
Other (disability, survivors, orphans)	1.8	2.4	1.8	1.9	1.8	1.9	1.8
Occupational pensions (public sector)	-	-	-	-	-	-	-
2. Health	4.8	4.8	5.2	5.4	5.4	5.3	5.3
Long-term health care	0.6	1.1	1.1	1.2	1.4	1.7	2.0
3. Education costs	5.2	6.2	4.8	4.8	4.3	4.3	4.8
4. Other age-related costs	0.1	0.4	0.5	0.2	0.2	0.2	0.2
5. Interest expenses	0.7	1.8	1.3	1.6	2.1	2.7	3.9

Source: Government of the Republic of Lithuania (2014), *On the Convergence Programme of Lithuania for 2014,* *http://finmin.lrv.lt/lt/es-ir-tarptautinis-bendradarbiavimas/koordinavimas-su-es/stabilumo-programa.*

The financial crisis severely impacted the labour market, with unemployment peaking at 17.8% in 2010. It has since come down to 10.9%, but remains almost twice as high as in 2008 (Table 1.2). Unemployment remains higher than in the OECD area, which stood at 7.5% in 2014 (OECD, 2015a). As in OECD countries, the rise in unemployment was felt more keenly by younger people, with 35.7% of Lithuanian 15-24 year-olds unemployed in 2010. The youth unemployment rate in Lithuania is close to that in other European countries: In 2013, the youth unemployment rate in the OECD area stood at 16.2%, but was 23.4% in OECD members within the European Union and 21.9% in Lithuania. In Lithuania, the youth unemployment rate had come down to 19.3% in 2014, compared to 15.0% in the OECD area (OECD, 2015a).

Table 1.2. **Indicators of social inclusion, 2008-14**

	2008	2009	2010	2011	2012	2013	2014
Unemployment rate (age 15-74)	5.8	13.8	17.8	15.4	13.4	11.8	10.9
Youth unemployment rate (age 15-24)	13.3	29.6	35.7	32.6	26.7	21.9	19.3
People at risk of poverty or social exclusion	27.6	29.6	34.0	33.1	32.5	30.8	..
Children (0-17) at risk of poverty or social exclusion	29.4	30.8	35.8	34.6	31.9	35.4	..

Note: People at risk of poverty or social exclusion comprise individuals who are at risk of poverty (with an equivalised disposable income below 60% of the national equivalised median income) and/or suffering from severe material deprivation and/or living in households with zero or low work intensity (where the adults worked less than 20% of their total work-time potential in the previous 12 months).
Sources: European Commission (2015a), *Commission Staff Working Document: Country Report Lithuania 2015,* *http://ec.europa.eu/europe2020/pdf/csr2015/cr2015_lithuania_en.pdf*; for 2014 data: OECD (2015a), *OECD Employment Outlook 2015,* *http://dx.doi.org/10.1787/empl_outlook-2015-en*, Table D.

In turn, the proportion of the Lithuanian population deemed at risk of poverty or social exclusion increased between 2008 and 2013 (Table 1.2) and is higher in Lithuania than in the EU on average (24.5% in the EU, compared to 30.8% in Lithuania) (Eurostat, 2015a). The risk of poverty or social exclusion remains particularly high for children aged up to 17 years (35.4% in Lithuania, compared to 27.6% in the EU on average). Relative poverty rates among the young are of growing concern in OECD countries: 2011 data confirmed that relative poverty rates were higher among the young (13.9%) than among the elderly (10.8%) (OECD, 2015b).

Acute drop in the population and prognosis for this to continue

There has been an acute drop in the total population in Lithuania since it was established as an independent state. In 2014, Lithuania is the EU's fastest ageing country due to both negative natural growth and high and persistent emigration (European Commission, 2015a; OECD, 2015c, Table 1.3). Based on the 2011 census, between 1990 and 2011, 728 700 people emigrated from Lithuania, that is, around 20% of the 1990s population (OECD, 2013a). In 2011, the population was 3 million and it had already fallen to 2.9 million by early 2014 (OECD, 2015c; NASE, 2015). Following the economic crisis, emigration peaked in 2010 with 83 500 leaving Lithuania (OECD, 2015c; Table 1.3).

The majority of emigrants are of working age and, increasingly, families – a profile that is more likely to remain away for the longer term (OECD, 2013a). In 2011, 55% of emigrants from Lithuania were aged 20 to 34 years (OECD, 2013a) and the pattern was very similar in 2014 (OECD, 2015c). Younger people were impacted more by unemployment after the economic crisis (Table 1.2) and this would have been an additional push factor for emigration (OECD, 2013a). The decline in the school-age population since 1990 has been dramatic and far more pronounced than in the EU or in the OECD area (Figure 1.2).

Figure 1.2. **Variation in school age population in Lithuania compared to in the OECD and the EU**

1990 = 100
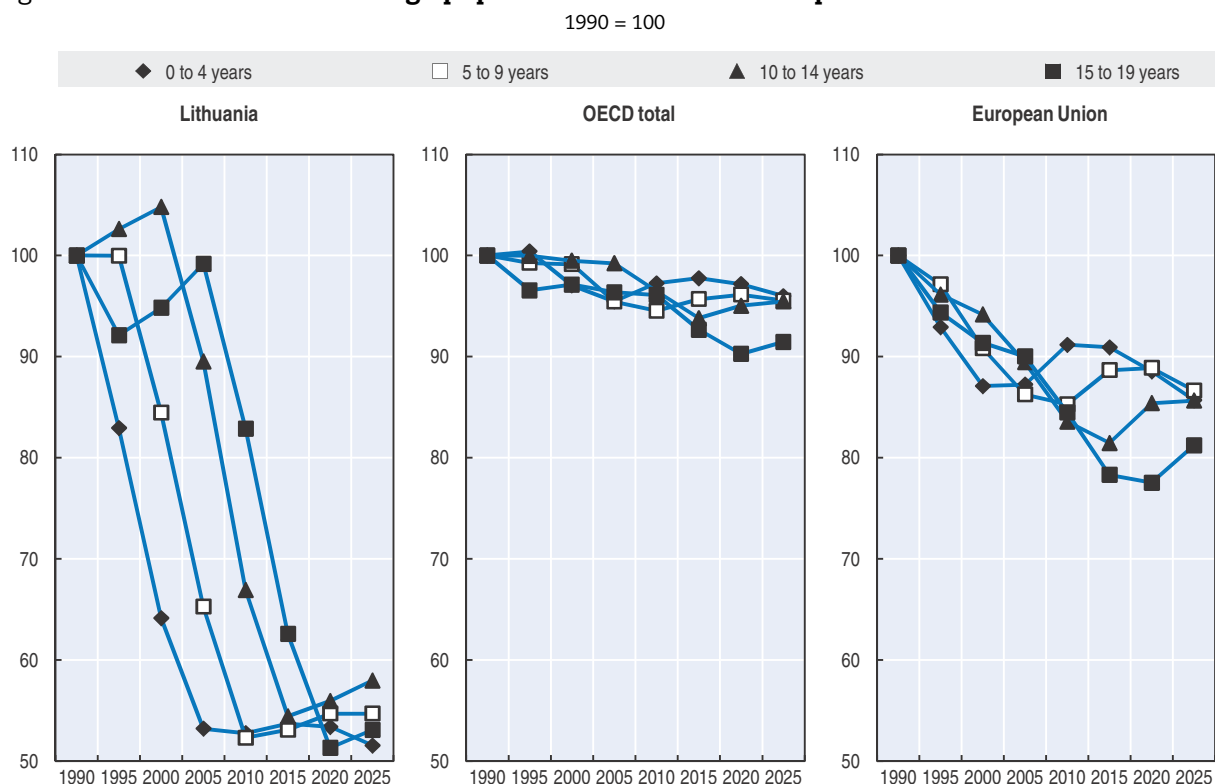
Source: OECD (no date), *Historical population data and projections (1950-2050)* statistical database, *http://stats.oecd.org/.*

While net migration remains negative, 2013 data indicate a slowdown (Table 1.3). However, according to Eurostat projections for the population in 2060, Lithuania will experience the sharpest population decline among EU member states (-38%) (population decline is projected in around half the EU member states) (European Commission, 2015b, Table 1.1.7). UN statistical analysis indicates that migration is unlikely to meet the replacement rate (Figure 1.3).

Table 1.3. **Components of population growth in Lithuania**

	Growth per 1 000 inhabitants						Level (thousands)
	2005	2010	2012	2013	Average		2013
					2003-07	2008-12	
Total	-6.5	-25.7	-10.6	-9.6	-5.6	-15.6	-28
Natural increase	-3.9	-2.0	-3.5	-3.9	-3.6	-3.5	-12
Net migration	-2.6	-23.7	-7.1	-5.7	-2.0	-12.0	-17

Source: OECD (2015c), *International Migration Outlook 2015, http://dx.doi.org/10.1787/migr_outlook-2015-en.*

Figure 1.3. **Estimates of net migration needed to keep the working-age population constant between 2015 and 2025**
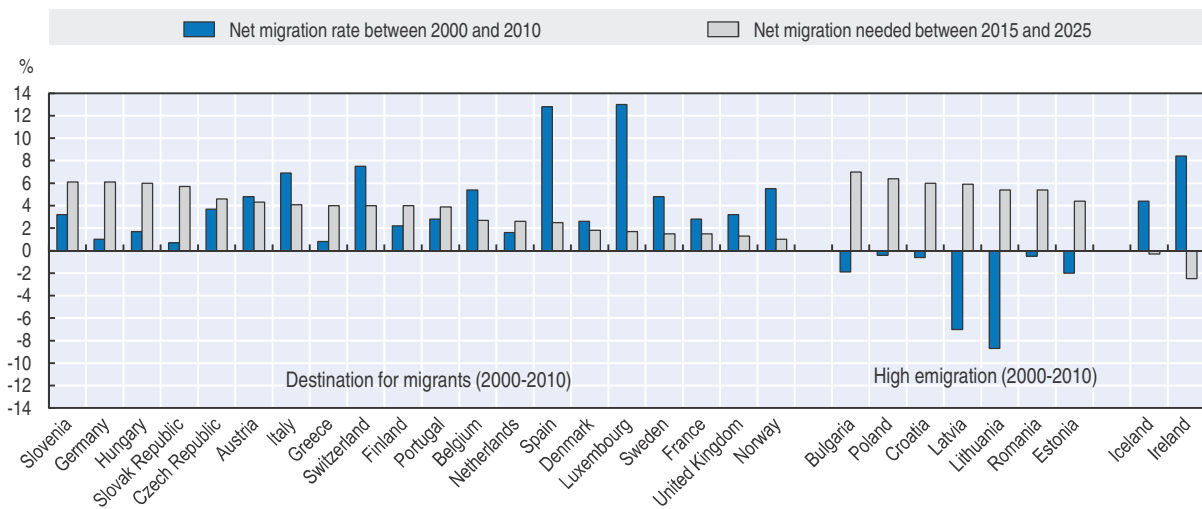
Note: The figure presents cumulative change over the stated time period as a percentage of the total population. Estimates for the natural decline in the working-age population between 2015 and 2025 are derived from the United Nations' Population Division (2013) and assumes migrants are in the 15 to 64 age group. For Iceland and Ireland, estimates show a natural increase in the working age population between 2015 and 2025.
Source: Bussolo, M., J. Koettl and E. Sinnott (2015), *Golden Aging: Prospects for Healthy, Active, and Prosperous Aging in Europe and Central Asia, https://openknowledge.worldbank.org/handle/10986/22018*, based on Figure 1.18.

Ageing of the population and related pressures on public expenditure
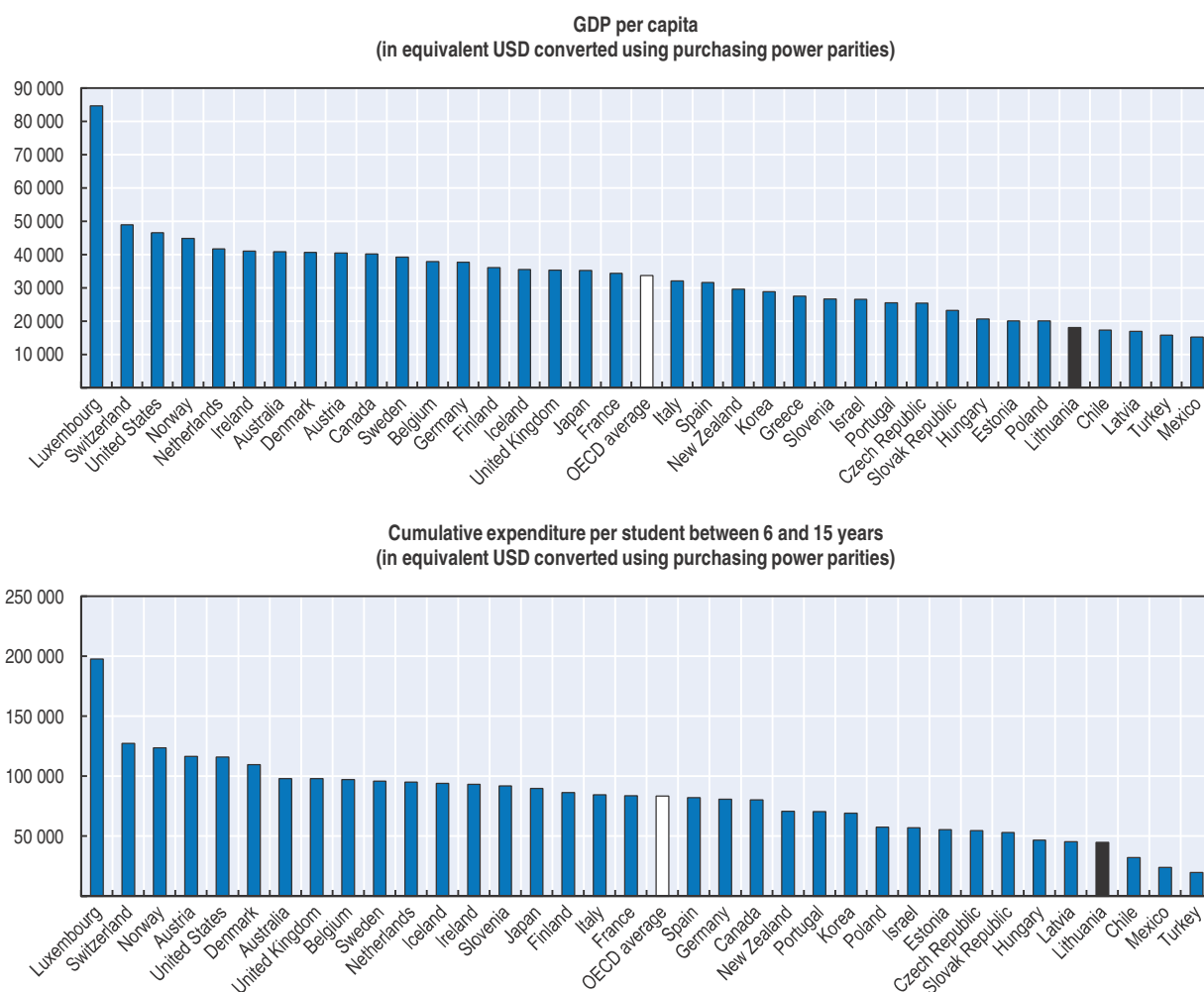
By 2030, the old-age dependency ratio (65 years or older/population aged 15 to 64) is predicted to be 48, that is 21 percentage points higher than the 2013 ratio (European Commission, 2015b, Table 1.1.14). While Lithuania is currently at the EU average level, its old-age dependency ratio will be significantly higher than the EU average in 2030.

These population projections indicate significant pressures on securing funding for education in the future, given increased needs for pension funding. Current budgetary projections estimate that in 2060 28% of total public expenditure will be allocated to pensions (Table 1.1), however, Bogetic et al., 2014 (in Bussolo, Koettl and Sinnott, 2015) estimate this will be as high as 34%. Aware of these pending challenges, Lithuania, like many other EU countries, introduced reforms to increase the retirement age: by 2026 the retirement age will be 65 years for both men and women.[1] Also, all workers must contribute 30 years of work to qualify for a full pension. Individuals who have contributed for 30 years may retire 5 years earlier than the statutory retirement age.

Public expenditure on education is already low in international comparison

Compared to OECD countries, Lithuania has comparatively low national income (as measured by per capita GDP) which is an initial indicator of the potential resources available for education (USD 18 022 compared to USD 33 732 on average) (Figure 1.4). Spending per student (aged 6-15) is also extremely low in international comparison and indicates a comparatively low level of resources actually invested in education (USD 44 963 compared to USD 83 382 on average). Hypothetically, allowing for an adjustment of per capita GDP and educational expenditure per student to OECD average levels would increase Lithuanian average performance in PISA to near the OECD average.[2]

Figure 1.4. **Comparatively low national income and investment in schooling**

GDP per capita
(in equivalent USD converted using purchasing power parities)

Cumulative expenditure per student between 6 and 15 years
(in equivalent USD converted using purchasing power parities)

Source: OECD (2014a), *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science, http://dx.doi.org/10.1787/9789264208780-en*, Table 1.2.27.

Public expenditure per student in Lithuania is one of the lowest among EU countries (Table 1.4). Since 2008, annual expenditure per student in primary and lower secondary education has increased, although has not kept pace with increases in the EU on average. Lithuania follows the EU pattern of a decrease in expenditure per student in upper

Table 1.4. **Expenditure per student compared to EU average**

	ISCED level	Lithuania		EU average		Ratio: Lithuania/EU average	
		2010	2011	2010	2011	2010	2011
Annual expenditure per student (in EUR Purchasing Power Standards)	1 and 2	3 328.94	3 385.05	6 063.74	6 297.16	0.55	0.54
	3 and 4	3 324.74	3 448.57	7 022.35	6 650.87	0.47	0.52
	5 and 6	5 065.20	6 532.70	9 707.12	9 635.57	0.52	0.68
Change in annual expenditure per student (2008 = 100)	1 and 2	105.4	107.2	106.5	110.6	..	..
	3 and 4	94.1	97.7	102.1	96.7	..	..
	5 and 6	106.8	137.8	103.8	103.0	..	..

Source: European Commission (2014), *Education and Training Monitor 2014 – Volume 1, http://ec.europa.eu/education/library/publications/monitor14_en.pdf.*

secondary and post-secondary non-tertiary education. However, there has been a stark increase in Lithuania on expenditure per student in tertiary education, which has not been the case in the EU on average (Table 1.4).

The school system in Lithuania

In Lithuania, compulsory schooling starts at age 7 and ends at age 16 – compulsory education ends at age 16 in 16 OECD countries (OECD, 2014b, Table C1.1a). A year of non-compulsory pre-primary education is offered free of charge to children aged 6. In 2014, around 93% of 6-year-olds were enrolled in pre-primary education (Statistics Lithuania, 2015, Figure 4.3). Compulsory education is organised into two main stages: primary education curriculum (children aged 7 to 10 in Years 1 to 4); basic education curriculum (first stage for 11-14 year-olds in Years 5 to 8; second stage for 15-16 year-olds in Years 9 and 10 or *gymnasium* Years 1 and 2). After compulsory education and upon successful completion of basic education, students may follow two-years of upper secondary education curriculum (17-19 year-olds). Only a minority (5.9% in 2014) choose not to continue to upper secondary education; most (78% in 2014) follow upper secondary education in general schools (16.1% in vocational schools) (Lithuanian Education Management Information System – EMIS).

The major school types are shown in Table 1.5. Primary schools (*Pradinė mokykla*) offer the primary education curriculum. Basic schools (*Pagrindinė mokykla*) offer the basic education curriculum or primary and basic education curricula. Pre-*gymnasia* (*Progimnazija*) are a new school type created in 2011 and offer the first part of the basic education curriculum or the primary and the first part of the basic education curricula. *Gymnasia* (*Gimnazija*) offer the second part of the basic education curriculum and the secondary education curriculum accredited in accordance with the procedure laid down by the Ministry of Education and Science. Secondary schools (*Vidurinė mokykla*) offer the secondary education curriculum, or the secondary and basic education curricula, or the secondary, basic and primary education curricula. The Ministry of Education and Science implemented a strategy to phase out secondary schools by 2015/16 (see Chapter 2). Subsequent to the OECD review visit, the Law on Education was amended to extend the deadline for the reorganisation of secondary schooling until 1 September 2017. Vocational training schools offer the second stage of the basic curriculum and secondary curriculum. Only a minority of students (0.6% in 2013) complete basic education in a vocational training school (NASE, 2015).

Table 1.5. **Number and distribution of students by school type, regular and specialised provision, 2015**

	Number of students	Distribution of students (%)
Primary school	16 514	4.5
Basic school	79 549	21.6
Pre-*gymnasium*	64 086	17.4
Secondary school	3 281	0.9
Gymnasium	151 236	41.0
Vocational training school	46 463	12.6
Arts *gymnasium* and conservatory	3 192	0.9
Youth school and child socialisation centre	999	0.3
Special school	3 595	1.0
Total	**368 915**	**100.0**

Source: Data from the Lithuanian Education Management Information System (EMIS).

The vast majority of Lithuanian students attend public schools: in 2015/16, 96.8% of general education students and 99.4% of vocational training students (EMIS). Among the different school types, the percentages of students attending private schools are: 1.7% in a private primary school; 1.1% in a private basic school; 0.1% in a private pre-*gymnasium*; 12.5% in a private secondary school; and 5.7% in a private *gymnasium* (Table 1.6). In the public sector, the State manages all vocational training schools, while the municipalities manage the majority of schools offering general education, including all public primary schools and pre-*gymnasia*. The Law stipulates that the State will provide education in Lithuanian where it is not provided by municipalities, but there is demand from local communities. As such, a minority of students attend a state-run basic school (0.4%) or *gymnasium* (2.0%). (As of 2015, there are no state-run secondary schools).

Table 1.6. **Distribution of students across the Lithuanian school network, 2015**

	Number of schools				Number of students			
	Total	Municipal	State	Private	Total	Municipal	State	Private
School-kindergarten	82	78		4	6 330	6 285		45
Primary school	83	73		10	16 514	16 231		283
of which: Multifunction centre	12	11		1	214	166		48
Basic school	438	427	4	7	79 549	78 318	334	897
of which: Multifunction centre	40	40			4 686	4 686		
Pre-*gymnasium*	113	111		2	64 086	63 994		92
Secondary school	14	10		4	3 281	2 872		409
Gymnasium	359	331	9	19	151 236	139 511	3 094	8 631
Schools providing specialised education								
Arts *gymnasium*	6		6		2 747		2 747	
Conservatory	3		3		445		445	
Child socialisation centre	6		6		111		111	
Youth school	12	12			888	888		
Special school	47	43	3	1	3 595	3 354	194	47
Vocational training school	75		73	2	46 463		46 199	264
College (repeat vocational training programmes)	1		1		70		70	
Adult school (centre)	22	22			6 378	6 378		
Total	**1 261**	**1 107**	**105**	**49**	**381 693**	**317 831**	**53 194**	**10 668**

Source: Data from the Lithuanian Education Management Information System (EMIS).

In 2015, 1.1% of Lithuanian students were enrolled in schools providing specialised education (Table 1.6). The State manages some schools with specialised provision, including arts *gymnasia* and conservatories that provide specialised training in the arts for talented children. Municipalities run 43 of the 47 "special schools" (*Specialioji mokykla*), those providing education for students with major and severe special educational needs. There are also eleven municipally managed "Youth schools" (*Jaunimo mokykla*), which provide the basic education curriculum with practical activities and social rehabilitation assistance to students aged 12 to 16 who have learning difficulties and lack motivation and social skills.

Evidence on the quality, equity and efficiency of the Lithuanian school system

Significant improvement in student performance in core skills between 1995 and 2003

According to data from the IEA Trends in International Mathematics and Science Study (TIMSS), Lithuania was one of the participating countries that saw the greatest performance improvement in the Year 8 mathematics and science tests over the period 1995 to 2011 (Mullis et al., 2012, Exhibits 1.8 and 2.20; Martin et al., 2012, Exhibits 1.8 and 2.19). The biggest improvement was between 1999 and 2003 and across the entire performance distribution. Student performance since 2003 has been relatively stable, although with a statistically insignificant decline between 2007 and 2011. Evidence from the OECD Programme for International Student Assessment (PISA) is broadly in line with this, showing that between 2006 and 2012, the performance of Lithuanian 15-year-olds in mathematics declined steadily (-2.2 score points per year since 2006; compared to -1.0 per year in the OECD on average); and remained stable in both reading (compared to -0.5 per year in the OECD on average) and science (also the case in the OECD on average) (OECD, 2014a, Tables 1.2.4, 1.4.4 and 1.5.4).

Near the end of compulsory education student performance is significantly below the OECD average

In primary education, Lithuanian students demonstrate comparatively strong skills in mathematics and around the average in science, as measured in the international assessment TIMSS (Table 1.A1.1). However, near the end of compulsory education (at age 15), Lithuanian students demonstrate weaker knowledge and skills in core areas compared to their counterparts in OECD countries on average. In 2012, the average performance of Lithuanian students on the PISA reading assessment was significantly below the OECD average and also low compared to neighbouring countries (Table 1.7a and b).

Only 3% of Lithuanian students were able to perform the most challenging tasks on the reading assessment, compared to 9% on average in the OECD, indicating that there is room to improve the quality of education even among the top performing students (Table 1.7b). Lithuanian students found tasks that assessed students' ability to reflect and evaluate most difficult (Table 1.7a). Such tasks require students to draw on knowledge, ideas or values external to the text presented in the test. Conversely, tasks that required students to find, select and collect information within the text were relatively easier for Lithuanian students.

The results indicate that Lithuanian students also struggled with the more challenging tasks in the PISA mathematics and science assessments, with lower proportions of students among the top performers (Table 1.7a). At the same time there

Table 1.7. **Selected indicators of quality and equity in Lithuania, based on PISA 2012**

a) Student performance on the reading assessment (PISA 2012)				
	Average reading score	Relative performance in different areas of the reading assessment (compared to average reading score)		
		Access and retrieve	Integrate and interpret	Reflect and evaluate
Maximum OECD (Korea)	539	2	1	3
Finland	536	-4	2	0
Estonia	501	2	-1	2
Poland	500	0	2	-3
OECD average	**493**	**2**	**0**	**1**
Latvia	484	-8	0	8
Lithuania	**468**	**8**	**0**	**-5**
Minimum OECD (Mexico)	425	7	-7	7

b) Indicators of equity in student performance (PISA 2012)			
Indicator		Lithuania	OECD average
Percentage of top performers (%)	Mathematics	8	13
	Reading	3	9
	Science	5	8
Percentage of low performers (%)	Mathematics	26	23
	Reading	21	18
	Science	16	18
Gender performance difference (girls minus boys)	Mathematics	0	-11
	Reading	55	38
	Science	14	-1
Percentage of students who repeated a grade (%)		2	12
Percentage of variance in mathematics performance explained by socio-economic status (%)		14	15

Notes: Top performers = students performing at PISA Level 5 and above; low performers = students performing below PISA Level 2.
Sources: OECD (2014a), *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science*, http://dx.doi.org/10.1787/9789264208780-en; OECD (2013b), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed*, http://dx.doi.org/ 10.1787/9789264201132-en; OECD (2013c), *PISA 2012 Results: What Makes a School Successful (Volume IV): Resources, Policies and Practices*, http://dx.doi.org/10.1787/9789264201156-en.

were slightly larger proportions of Lithuanian students among the low performers on the PISA mathematics and reading assessments. This indicates a need to focus on quality improvement throughout the performance distribution.

Concerns about relatively weaker core skills for Lithuanian boys on average

In the context of gender performance differences observed in international assessments, Lithuanian boys perform relatively weaker on core skills. Results from TIMSS indicates that while there were no performance differences between girls and boys in mathematics or science in Year 4, by Year 8 girls significantly outperformed boys (Table 1.A1.1). The only OECD country where girls outperformed boys in Year 8 was Turkey (boys outperformed girls on the mathematics test in Chile, Italy, Korea and New Zealand and on the science test in Australia, Chile, Hungary, Italy, Japan, New Zealand and the United States) (Mullis et al., 2012, Exhibit 1.11; Martin et al., 2012, Exhibit 1.11).

Similarly, PISA 2012 results reveal that Lithuanian boys demonstrate relatively weaker performance in core skills toward the end of compulsory education. In the reading and science assessments, girls have a clear performance advantage – on average in the OECD there was no observed performance difference between girls and boys in the science assessment. Whereas internationally boys outperformed girls on the mathematics assessment, in Lithuania there was no observed performance difference (Table 1.7b). In turn, the performance advantage demonstrated by Lithuanian girls on the reading assessment was much more pronounced than girls enjoyed on average in the OECD.

Evidence of pronounced performance differences between rural and urban areas

In Lithuania, the proportion of the adult population educated to the tertiary level is around the OECD average, which is an important contextual indicator given the strong influence that parental education has on student outcomes (OECD, 2014a). However, in urban areas this is much higher than in rural areas (35% compared to 14% in 2014) (Statistics Lithuania, 2015). At the same time, compared to on average in the OECD, the socio-economic context in Lithuania is more challenging, and in particular in rural areas (in PISA 2012, 21.5% of 15-year-olds were from less advantaged socio-economic backgrounds, compared to 15.4% on average) (OECD, 2014a, Table 1.2.27; Table 1.8). Around 35% of children aged up to 17 years are in families that are at risk of poverty (Table 1.2).

Table 1.8. **Performance disadvantage of students in rural areas in international comparison, 2012**

	OECD average			Lithuania		
	Rural area	Town	City	Rural area	Town	City
Percentage of students (%)	9.4	55.9	34.7	20.0	42.7	37.4
Average socio-economic and cultural status	-0.33	-0.04	0.15	-0.67	-0.15	0.18
	Rural area compared to city	Town compared to rural area	City compared to town	Rural area compared to city	Town compared to rural area	City compared to town
Performance difference	-31	20	11	-57	37	20
Adjusted performance difference	-13	11	4	-31	20	10

Source: OECD (2013b), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed*, *http://dx.doi.org/10.1787/9789264201132-en*, Table II.3.3a.

National education statistics present much information comparing rural areas to urban areas. These reveal significant differences among schools, with, on average, schools in rural areas having lower outcomes on national measures (NASE, 2015). Results from PISA 2012 indicate that compared to on average in the OECD, this urban-rural performance divide is much greater in Lithuania. Internationally, students in rural areas, on average, come from less advantaged socio-economic backgrounds and show a performance disadvantage compared to their peers in cities (Table 1.8). However, according to the PISA 2012 sample, a greater proportion of Lithuanian students are in rural areas, compared to on average in the OECD, and their relative socio-economic disadvantage to those students in cities is much greater (Table 1.8). But even after accounting for these socio-economic differences, Lithuanian students in rural areas showed a pronounced performance disadvantage; much greater than in the OECD on average (Table 1.8).

Grade repetition and drop-out rates are comparatively low

Through compulsory education, only a negligible proportion of Lithuanian students repeat a school year. In 2013, the repetition rate in Year 1 was 0.8%, for Years 2 to 6 it was 0.3% and it peaked at 1.4% at the end of compulsory education in Year 10 (or *Gymnasium Year 2*) (EMIS). Two per cent of 15-year-old students participating in PISA 2012 reported that they had repeated a year – a much lower rate than reported internationally (12% on average) (Table 1.7b).

Lithuania has one of the lowest rates of early school leavers among European countries. On average in the European Union, 11.1% of students in 2014 had left education and training early, but this was 5.9% in Lithuania (European Commission, 2015c).

Sharp drop in number of children has presented huge efficiency challenges to the school network

Since 1995, there have been dramatic decreases in the school-age population in Lithuania and thus the number of children attending school. In comparison to trends in the school-age population overall in OECD countries, the drop in number of children is particularly stark in Lithuania (Figure 1.2). This decline initially impacted primary schooling with a reduction in the number of children aged 5 to 9, followed by the first stage of basic education in 2000 (children aged 10 to 14) and finally the second stage of basic education and/or *gymnasium* in 2005 (children aged 15 to 19). The number of children aged 4 years or younger has remained low, but stable since 2005 and projections through 2020 indicate a slight increase in the number of children aged 5 to 9, but a continued decrease in the number of children in the second stage of basic education and/or *gymnasium*. From 2015, the number of children in basic education is projected to increase slightly. However, Eurostat estimates predict that between 2020 and 2060 the population aged 14 or under will shrink further by 20% (European Commission, 2015b, Table 1.1.9).

There have been considerable adjustments to the organisation of the school network to address these efficiency challenges (see Chapter 3). However, the average student-teacher ratio remains exceptionally low in Lithuania in international comparison at each level of public education (Figure 1.5 and Table 1.A1.2 in Annex 1.A1). According to official European data, the student-teacher ratio is the third and second lowest among European countries at the primary and lower and upper secondary levels respectively. While student-teacher ratios vary enormously among European countries, the typical values range between 12 and 16 in primary education, but in Lithuania the average number of students per teacher is 10 (Figure 1.5). The OECD average is 15 students per teacher in primary education. At the secondary level there are 8 students or fewer per teacher in Lithuania; in neighbouring countries the student-teacher ratio at upper secondary level is more efficient than at lower secondary level, especially in Estonia and Finland (Table 1.A1.2). However, Lithuanian, Estonian and Finnish school leaders in PISA 2012 reported similar student-teacher ratios towards the end of compulsory education and in Lithuania this was higher than the official European data (11.4 students per teacher) (Figure 1.6).

National data on student-teacher ratios show that vocational training schools, on average, have become more efficient on this indicator over recent years (around 9.6 students per teacher from 2000/01 to 2007/08, but steady improvement thereafter to 15.6 students per teacher in 2015/16); this has not been the pattern in general education (student-teacher ratios fluctuated from 11.6 in 2000/01, to 10.4 in 2012/13 and 11.5 in 2015/16) (EMIS).

Figure 1.5. **Student-teacher ratios in primary education, 2012**
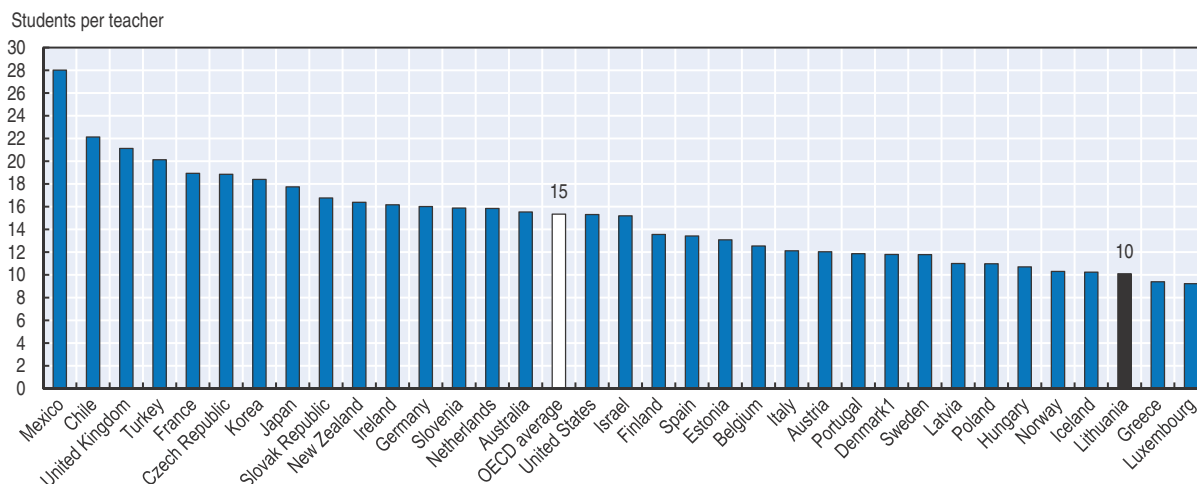
1.   Data are for 2011.
Sources: OECD (2014b), *Education at a Glance 2014: OECD Indicators*, *http://dx.doi.org/10.1787/eag-2014-en*, Table D2.2; Eurostat (2015b), *School Enrolment and Early Leavers from Education and Training*, Eurostat statistics explained online database, *http://ec.europa.eu/eurostat/statistics-explained/index.php/School_enrolment_and_early_leavers_from_education_and_training#Further_Eurostat_information.*

Figure 1.6. **Student-teacher ratios near the end of compulsory education, 2012**
As reported by school principals in PISA 2012
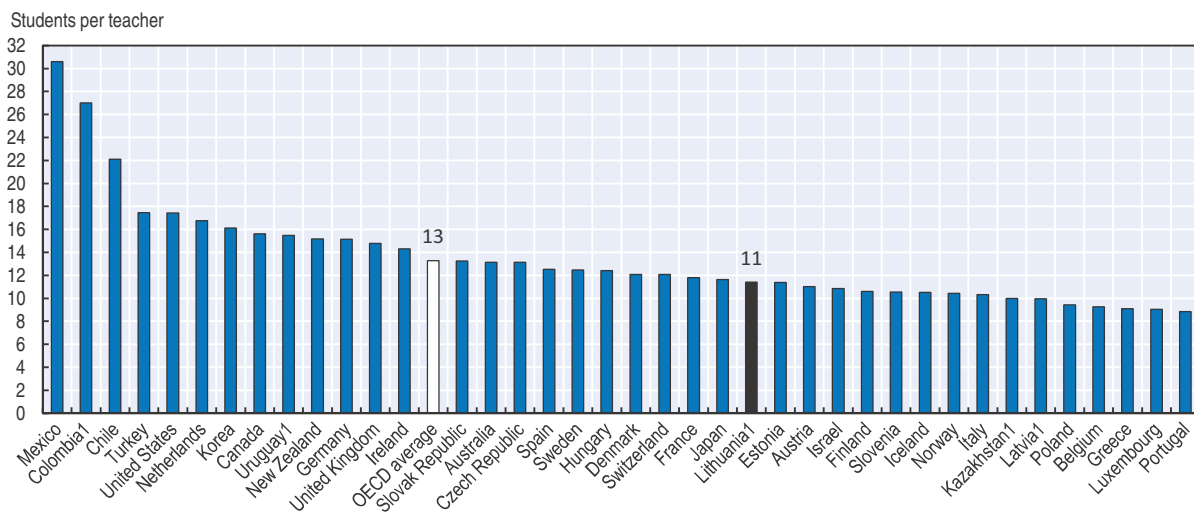
1.   Country is not a member of the OECD.
Source: OECD (2013c), *PISA 2012 Results: What Makes a School Successful (Volume IV): Resources, Policies and Practices*, *http://dx.doi.org/10.1787/9789264201156-en*, Tables IV.3.8 and IV.3.9.

Compared to other participating countries in the OECD 2008 Teaching and Learning International Survey, Lithuania had one of the smallest average class sizes in lower secondary education (one of five systems where this was fewer than 20 students) (Box D2.1 Chart A, OECD, 2013d). Class sizes in small communities (15 000 people or fewer) were particularly low and comparatively lower than in any other participating country (Box D2.1 Chart B, OECD, 2013d). There are significant variations reported by school leaders in rural areas compared to in towns and cities – these rural-urban class size differences are among the biggest reported in PISA 2012 countries (Figure 1.7). National data show that class sizes

Figure 1.7. **Variations in reported class size in rural and urban areas, 2012**

Class size of language-of-instruction lessons, as reported by 15-year-old students in PISA 2012
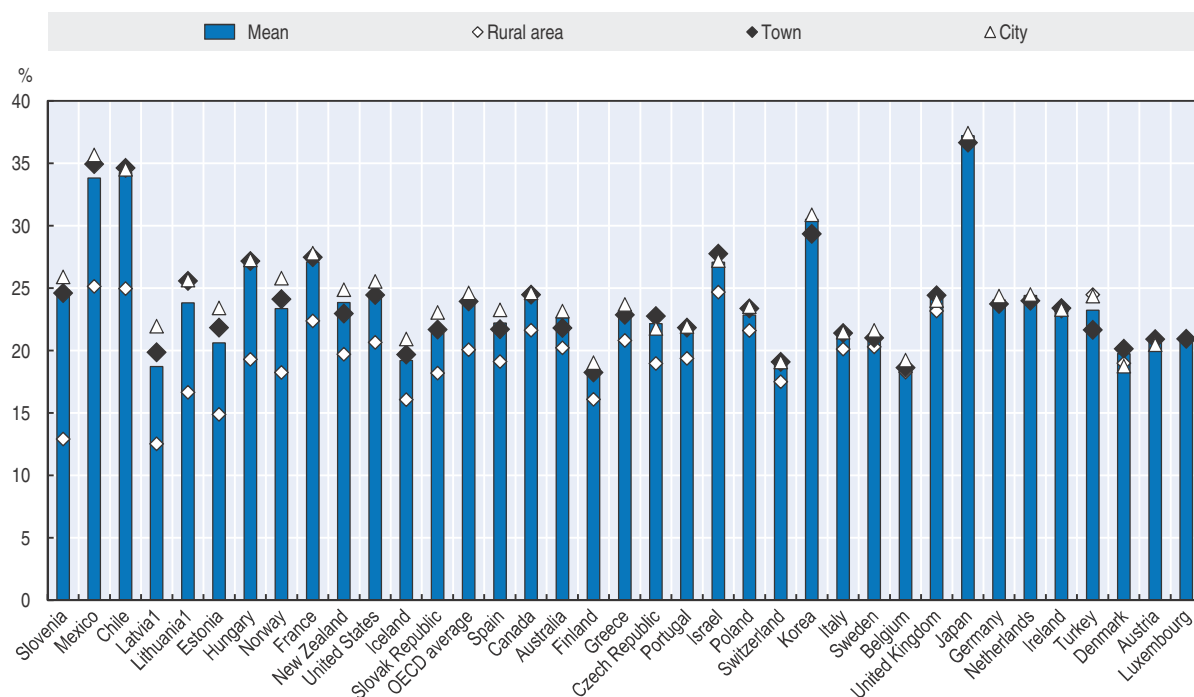
Note: Countries are presented in descending order of difference in class size between schools in cities and schools in a rural area.

1. Country is not a member of the OECD.

Source: OECD (2013c), *PISA 2012 Results: What Makes a School Successful (Volume IV): Resources, Policies and Practices*, *http://dx.doi.org/10.1787/9789264201156-en*, Table IV.3.24.

in rural areas have remained steady between 2005 and 2013 (around 13 students per class), but have dropped to 11.4 students per class in 2015; class sizes in urban areas have steadily dropped over the same period (23.3 students in 2005; 21.2 students in 2013; 20.6 students in 2015) (NASE, 2015, Figure 5.2).

Notes

1. The June 2011 law gradually increases the statutory retirement age from 62.5 to 65 years for men and from 60 to 65 years for women. From 2012 until 2026, each year the retirement age increases by two months for men and by four months for women (European Commission, 2015b).

2. On the PISA 2012 mathematics assessment, Lithuanian students' mean performance was 479 points, significantly below the OECD average (494). However, an adjustment for per capita GDP and for expenditure per students would bring this to 491 points and 492 points respectively (OECD, 2014a, Table 1.2.27).

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ANNEX 1.A1

Data for Chapter 1

Table 1.A1.1. **Lithuanian student performance in international comparison, Years 4 and 8, 2011**

Results from the Trends in Mathematics and Science Study (TIMSS 2011)

Indicator	Area tested	Lithuania	International average
Percentage of students at the High benchmark	Mathematics (Year 4)	43	28
	Science (Year 4)	31	32
	Mathematics (Year 8)	29	17
	Science (Year 8)	33	21
Percentage of students at the Advanced benchmark	Mathematics (Year 4)	10	4
	Science (Year 4)	4	5
	Mathematics (Year 8)	5	3
	Science (Year 8)	6	4
Gender performance difference (girls minus boys)	Mathematics (Year 4)	1	1
	Science (Year 4)	1	2
	Mathematics (Year 8)	9	4
	Science (Year 8)	8	6

Sources: Martin, M.O. et al. (2012), *TIMSS 2011 International Results in Science*, *http://timssandpirls.bc.edu/timss2011/ downloads/T11_IR_Science_FullBook.pdf*; and Mullis, I.V.S. et al. (2012), *TIMSS 2011 International Results in Mathematics*, *http://timssandpirls.bc.edu/timss2011/downloads/T11_IR_Mathematics_FullBook.pdf*.

Table 1.A1.2. **Student teacher ratios in international comparison, 2013**

Lower secondary education		Upper secondary education	
Turkey	19.3	United Kingdom	18.5
United Kingdom	18.5	Finland	16.0
France	15.4	Turkey	15.6
United States	15.4	United States	15.4
Japan	13.9	Ireland	13.9
Germany	13.6	Slovak Republic	13.6
Slovak Republic	12.5	Slovenia	13.5
Sweden	12.0	Germany	13.2
Italy	11.7	Sweden	12.8
Spain	11.6	Italy	12.6
Czech Republic	11.2	Hungary	12.0
Luxembourg	11.2	Japan	11.7
Iceland	10.5	Estonia	11.3
Hungary	10.4	Czech Republic	11.1
Portugal	10.4	Poland	11.0
Poland	9.9	Spain	11.0
Estonia	9.8	Norway	10.3
Norway	9.8	Latvia	10.2
Belgium	9.3	France	10.1
Austria	9.0	Austria	9.9
Finland	9.0	Belgium	9.9
Slovenia	8.2	Portugal	8.4
Latvia	7.8	Greece	8.1
Lithuania	**7.6**	**Lithuania**	**8.0**
Greece	7.3	Luxembourg	7.1
Denmark	..	Denmark	..
Ireland	..	Iceland	..
Netherlands	..	Netherlands	..

Source: Eurostat (2015a), *People at Risk of Poverty or Social Exclusion*, Eurostat statistics explained online database, *http://ec.europa.eu/eurostat/statistics-explained/index.php/People_at_risk_of_poverty_or_social_exclusion.*
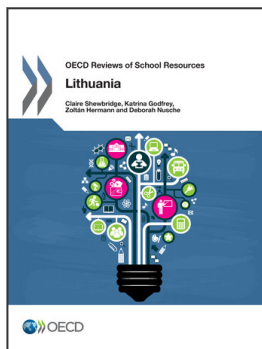
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