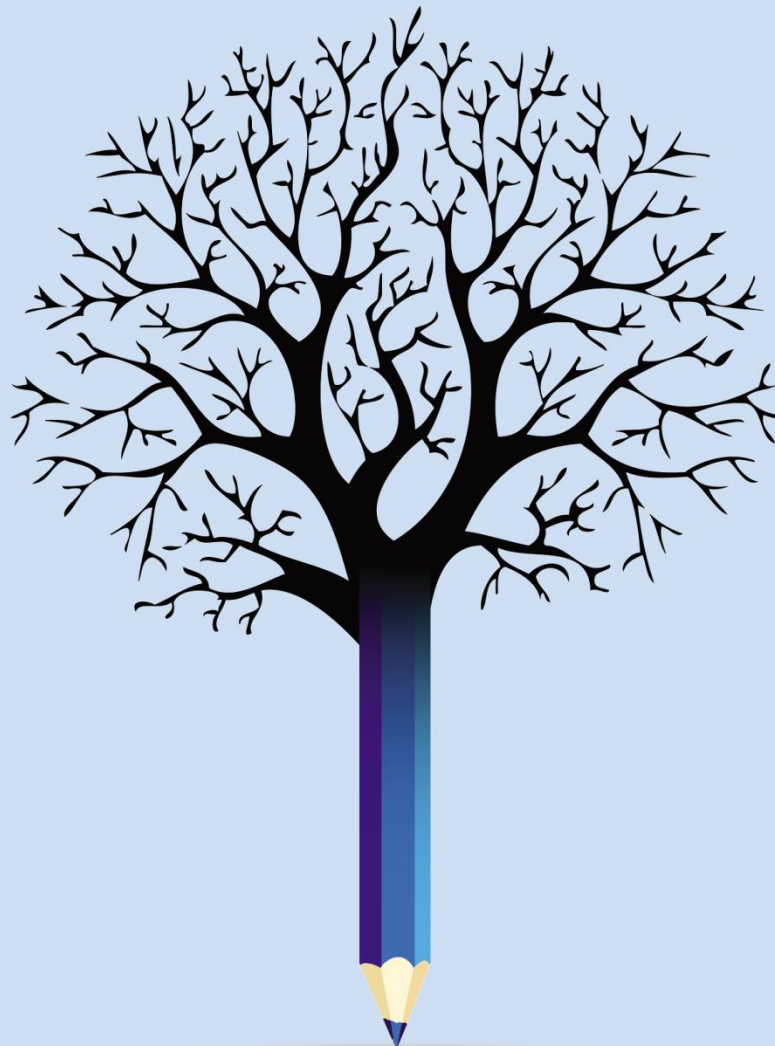




EDUCATION POLICY OUTLOOK **ESTONIA**





EDUCATION POLICY PROFILE

This **policy profile on education** in Estonia is part of the *Education Policy Outlook* series, which presents comparative analysis of education policies and reforms across OECD countries. Building on the OECD's substantial comparative and sectorial policy knowledge base, the series offers a comparative outlook on education policy by providing analysis of individual countries' educational context, challenges and policies (education policy profiles), analysis of international trends, and insight on policies and reforms on selected topics. In addition to country-specific profiles, the series also includes a recurring publication. The first volume, *Education Policy Outlook 2015: Making Reforms Happen*, was released in January, 2015.

Designed for **policy makers, analysts and practitioners** who seek information and analysis of education policy taking into account the importance of national context, the country policy profiles offer constructive analysis of education policy in a comparative format. Each profile reviews the current context and situation of the country's education system and examines its challenges and policy responses, according to six policy levers that support improvement:

- Students: How to raise outcomes for all in terms of 1) equity and quality and 2) preparing students for the future
- Institutions: How to raise quality through 3) school improvement and 4) evaluation and assessment
- System: How the system is organised to deliver education policy in terms of 5) governance and 6) funding.

Some country policy profiles contain spotlight boxes on selected policy issues. They are meant to draw attention to specific policies that are promising or showing positive results and may be relevant for other countries. This country profile also includes a spotlight on the European Union perspective for Estonia, based on challenges and recommendations identified by the Council of the European Union and the European Commission as part of their activities with EU member countries.

Special thanks to the Government of Estonia for its active input during consultations and constructive feedback on this report. We also thank the European Commission for its valuable analytical and financial support for development of 11 OECD-EU Country Profiles over the course of 2015-16.

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Sources: This country profile draws on OECD indicators from the Programme for International Student Assessment (PISA), the Survey of Adult Skills of the Programme for International Assessment of Adult Competencies (PIAAC), the Teaching and Learning International Survey (TALIS) and the annual publication *Education at a Glance*. It also refers to country and thematic studies such as OECD work on early childhood education and care, teachers, school leadership, evaluation and assessment for improving school outcomes, equity and quality in education, governing complex education systems, vocational education and training, and tertiary education. Much of this information and documentation can be accessed through the OECD Education GPS at <http://gpseducation.oecd.org>.

Most of the figures quoted in the different sections refer to Annex B, which presents a table of the main indicators for the different sources used throughout the country profile. Hyperlinks to the reference publications are included throughout the text for ease of reading and also in the References and further reading section, which lists both OECD and non-OECD sources.

More information is available from the OECD Directorate for Education and Skills (www.oecd.org/edu) and its web pages on Education Policy Outlook (www.oecd.org/edu/policyoutlook.htm), as well as on the EU Education and Training Monitor (http://ec.europa.eu/education/tools/et-monitor_en.htm) and Eurydice (<https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Estonia:Overview>).



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HIGHLIGHTS

Estonia's educational context

Students: Estonia is an overall high performer in PISA 2012, with policies that promote equity in the education system. Estonia achieved high performance in mathematics, reading and science compared to other OECD countries. Its performance relative to previous PISA cycles has increased in reading and remained unchanged in mathematics and science. Students' socio-economic background had a lower impact on performance than the OECD average in PISA 2012. Estonia has a comprehensive schooling system from age 7 to age 17 that covers all compulsory education and is integrated within a single structure. Grade repetition is low, and tracking (where students follow different educational pathways) starts at age 15-16. School choice and ability grouping are practised in Estonia. Estonia's enrolment rates in upper secondary vocational education and training (VET) programmes are below the OECD average. Attainment rates are high in upper secondary education and around the OECD average in tertiary education, with increases of almost 10 percentage points since 2000. In the Survey of Adult Skills, Estonia showed high proficiency levels in literacy and numeracy among 16-65 year-olds compared to their peers in other participating countries, and even higher results among 16-24 year-olds, also compared to their peers in other participating countries. Unemployment rates for 25-64 year-olds for all levels of education were below the OECD average in 2014.

Institutions: Schools in Estonia have a level of autonomy above the OECD average, including the capacity to make decisions on the curriculum and to hire and dismiss teaching staff. Lower secondary teachers are required to have five years of initial teacher training, including a mandatory teaching practicum, and must follow continuous professional development. Primary and secondary teachers have below-average class sizes and teaching time. Their salaries are lower than the OECD average, despite a significant increase since 2000. A lower proportion of teachers in Estonia than the TALIS average consider that the teaching profession is valued in society and would choose to work as teachers if they could decide again. Teacher appraisal is used for career advancement and to some extent to determine the need for professional development, but there is currently no appraisal system for school leaders. A system-level assessment of the education system is carried out yearly by the Ministry of Education and Research.

System: In Estonia, governance of the education system is shared between central and local authorities, and schools have a high level of autonomy for resource allocation. The state sets national standards and establishes principles of education funding, supervision and quality assessment. Early childhood education and care is managed by local authorities, and most decisions in lower secondary education are taken at the school level. Estonia's expenditure on educational institutions as a percentage of GDP and per student (for all education levels combined) is below the OECD average, with a higher share of public funding than the OECD average.

Key policy issues

As an already high-performing education system working further towards excellence, Estonia faces the challenge, in a context of demographic change across the country, of facilitating access for all students to quality basic education close to home and quality upper secondary education in the closest regional centre. With lower performance and educational attainment for males, addressing gender gaps is an issue of concern to the country, as is improving intergenerational mobility. Estonia also needs to further develop the skills required to become a technology-intensive economy, as set out in its objectives. This involves improving the quality and relevance of education provided at upper secondary and higher education levels and making VET more attractive (for example, by strengthening work-based learning in collaboration with employers). In schools, the ageing teaching profession underlines the need to make teaching a more attractive profession to avoid a future shortage of quality teachers. Estonia's decentralised education system also needs to adapt to the rapidly declining numbers of school-age children, which will require redefining and co-ordinating the allocation of education resources and responsibilities to realise greater effectiveness and efficiency.

Recent policy responses

As part of the Lifelong Learning Strategy 2014-20, a new continuous professional development system driven by teachers' needs for training is being put in place.

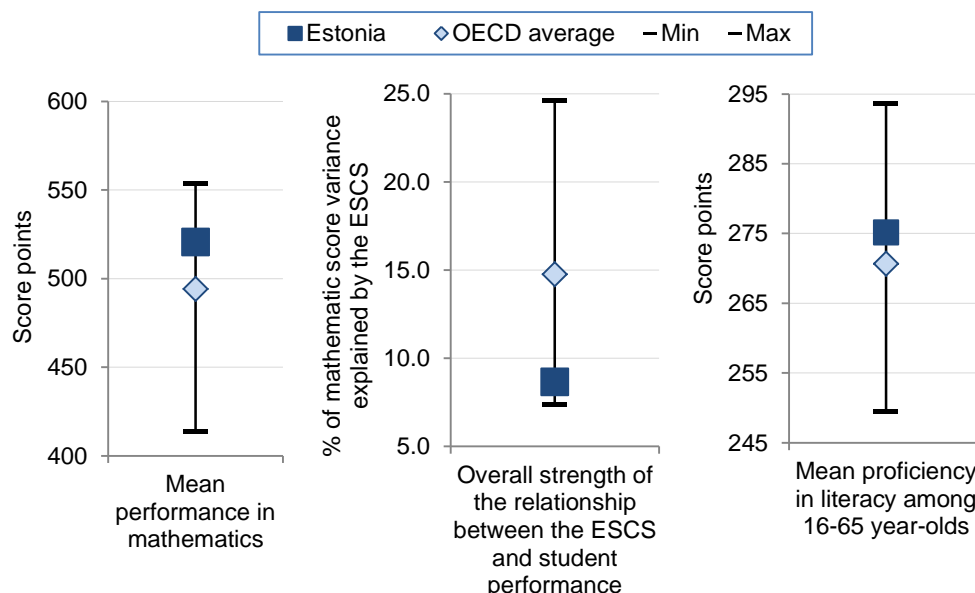
A higher education reform, implemented in 2013 to introduce means-tested financial support for students, aims to ensure the right to free education for all full-time students who are studying in Estonian. A new performance-based funding system for higher education institutions, also introduced in 2013, aims to put more emphasis on quality and internationalisation of the system.

Starting with the academic year 2013, Estonia has made efforts to align teacher salaries with the earnings of full-time, full-year workers with tertiary education by 2020 and also to raise the percentage of teachers under age 30 to 12.5% by 2020.



Estonia is among the top performers in reading, mathematics and science in PISA 2012. Between 2009 and 2012, Estonia increased its share of top performers and simultaneously reduced its share of low performers in science. The impact of socio-economic status on student performance (8.6%) is below the OECD average (14.8%). Estonian adults (16-65 year-olds) performed above the OECD average in literacy and numeracy in the OECD Survey of Adult Skills (PIAAC). (Figure 1)

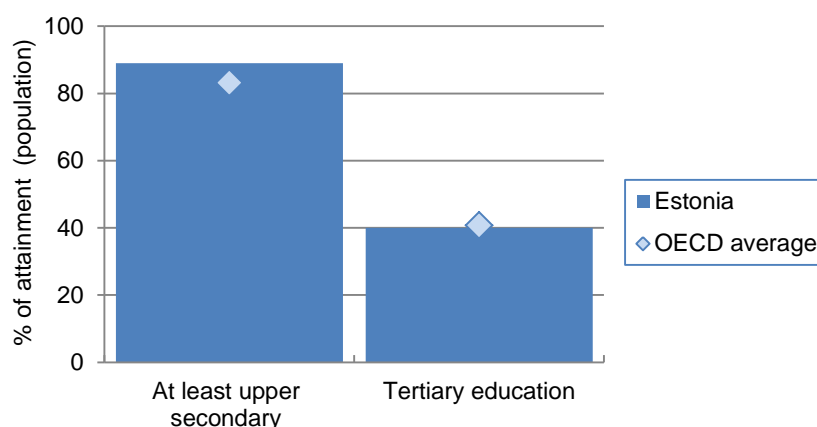
Figure 1. Performance of 15-year-olds in mathematics, relationship between student performance and economic, social and cultural status (ESCS) (PISA 2012) and performance of adults in literacy (PIAAC)



Note: "Min"/"Max" refer to OECD countries with the lowest/highest values.
Sources: PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading, and Science, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264208780-en>; OECD (2013), OECD Skills Outlook 2013: First Results from the Survey of Adult Skills, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264204256-en>.

Secondary education attainment in Estonia is above the OECD average, while tertiary attainment is at the OECD average: 89% of 25-34 year-olds have attained at least upper secondary education (compared to the OECD average of 83%), and 40% have attained tertiary education (compared to the OECD average of 41%) (Figure 2).

Figure 2. Upper secondary and tertiary attainment for 25-34 year-olds (2014)



Source: OECD (2015), Education at a Glance 2015: OECD Indicators, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2015-en>.



Spotlight 1. The European Union perspective: Estonia's education and training system and the Europe 2020 Strategy

In the European Union's growth and employment strategy, [Europe 2020](#), education and training is recognised as a key potential contributor to Europe's economic growth and social inclusion. The European Union set a two-fold target in education by 2020: reducing the rates of early school leaving below 10%, and reaching at least 40% of 30-34 year-olds completing tertiary education. Countries set their own related national targets. The Europe 2020 goals are monitored through the EU's yearly assessment of the main economic and growth issues.

The [European Semester Country Report 2015](#) identified the following key points for education and training in Estonia:

- Levels of basic skills and tertiary attainment rates are high. The number of graduates in science, technology, engineering and mathematics (STEM) has been growing and represents over one-fourth of all higher education graduates. The employment rate of recent graduates has recovered after the economic crisis. A co-ordination system for monitoring and forecasting of the labour market and development of skills (OSKA) has been gradually developed since 2014.
- Structural challenges include adapting Estonia's education system to demographic change (a rapidly declining population) and to future requirements of a technology-intensive labour market. For instance, Estonia will need to consolidate its reorganisation of the upper secondary school network for general education (see Spotlight 2), and to strengthen the attractiveness of vocational education and training and the provision of work-based learning. To address this issue, Estonia plans to continue its apprenticeship development programme. Stronger links are needed with the economic sector (See Preparing students for the future). Finally, the gender gap in education is a significant issue, especially for young men.
- With regard to the early school leaving rate, Estonia's performance (11.4% in 2014) is close to the EU average (11.2%), but above the Europe 2020 national target of 9.5%. The rate has slowly decreased in the last decade (by around 2.5 percentage points since 2005), with significant regional differences. Over the last decade, the early school leaving rate for males has fallen significantly, but it is still more than twice that of females (in 2014, 15.3% for males compared to 7.5% for females).
- Estonia's tertiary education attainment rate for 30-34 year-olds (43.2% in 2014) is above the EU average (37.9%). The attainment rate for female students reached 54.2% in 2014 compared to the EU average of 42.3%. The tertiary attainment rate for foreign-born 30-34 year-olds (55.4% in 2014) is higher than for their Estonian-born peers (42.5%), although the actual number of foreign-born students remains very small.
- The participation rate of upper secondary students in vocational education and training is low in Estonia (34.4%, compared to the EU average of 48.9% in 2013). The number of VET students participating in apprenticeships is also low. In 2013, only 583 students undertook an apprenticeship in Estonia, representing approximately 2% of all initial VET students.

The [Council of the European Union recommendation to Estonia \(2015\)](#) concerning education is:

“Increase participation in vocational education and training, and its labour market relevance, in particular by improving the availability of apprenticeships [...]”



EQUITY AND QUALITY: BOOSTING PERFORMANCE, ACCESS AND INCLUSIVENESS

Estonia was among the highest performing education systems in PISA 2012, combining high performance in mathematics, reading and science and high **equity indicators**. In mathematics, Estonia had a greater share of top performers (14.6% of students at or above Level 5, compared to the OECD average of 12.6%) and a lower share of low performers (10.5% of students below Level 2, compared to the OECD average of 23.1%) (Figure 3). Students in Estonia also performed above the OECD average in creative problem-solving. Across PISA cycles, Estonia's performance in reading has increased, while performance in mathematics and science has remained unchanged. The impact of socio-economic status on student performance (8.6%) is lower than the OECD average (14.8%) (Figure 1). However, Estonia has a higher gender gap in reading performance than in other OECD countries, with Estonian boys performing 44 score points below Estonian girls (the OECD average gap is 38 score points).

Participation in **early childhood education and care** in Estonia is broader than in other OECD countries, and it is mainly provided in public institutions. While compulsory school attendance generally begins at age 7, almost all 4-year-olds (91%) and most 3-year-olds (87%) were enrolled in early childhood education in 2013 (well above the OECD average of 84% for 4-year-olds and 70% for 3-year-olds). Most students in early childhood education (96%) attend public institutions, which is also significantly above the OECD average (61%).

Estonia has some **system-level** policies that promote equity in education, such as long comprehensive education and low grade repetition. But other policies, such as school choice or ability grouping, could hinder equity if not managed carefully, according to an *OECD study*. Education is compulsory in Estonia between age 7 and age 17 and is taught in a comprehensive structure (all students follow the same programme). Tracking (where students follow different educational pathways) begins at age 15-16, later than the OECD average of age 14. Grade repetition is among the lowest in OECD countries, with only 3.5% of 15-year-old students repeating at least once, compared to the OECD average of 12.4% in PISA 2012. School choice is possible in Estonia: 61.8% of students in PISA 2012 attend schools reporting that they compete for students in the same area (similar to the OECD average of 60.7%). Ability grouping within classes is more common in Estonia than across the OECD: 61% of students are in schools whose principal reported at least one form of grouping for some classes (compared to the OECD average of 41%), and 11% of students are in schools where principals reported that no ability grouping takes place for any class (compared to the OECD average of 24%).

Upward intergenerational mobility in educational attainment is comparatively low, despite Estonia's tradition of tertiary education. In Estonia, the share of 25-34 year-old students whose educational attainment is lower than that of their parents is one of the largest among OECD countries (26.9%, compared to the OECD average of 16%), while the share of those with higher attainment than their parents is one of the smallest (23.3%, compared to the OECD average of 32%). Lower intergenerational mobility is more evident for men: 34.7% of 25-34 year-old men have lower educational attainment than their parents, compared to 18.3% for women. Among possible factors influencing this lower intergenerational mobility is a higher share of graduates from shorter more technically oriented tertiary education under the former Soviet educational system.

The challenge: Working to improve intergenerational mobility among students, particularly for men, and addressing other performance gaps related to gender.

Recent policies and practices

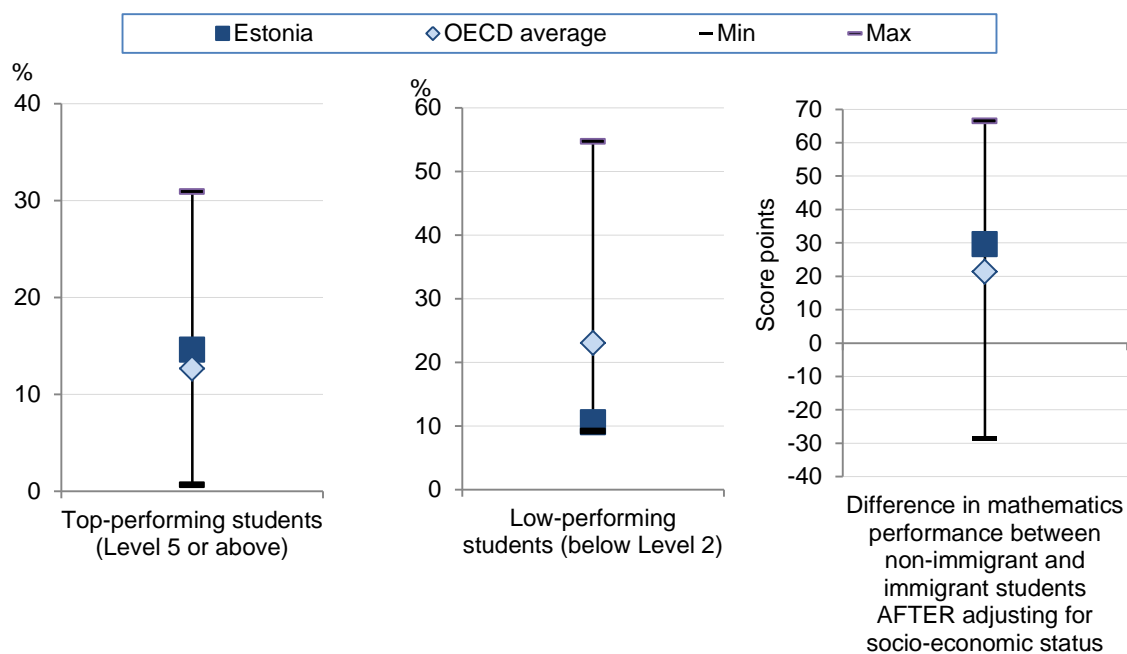
An amendment to the Pre-school Act of 2010 (which covers children from age 1.5 to age 7) introduces a legal entitlement to childcare services where there is a shortage of places in municipal care centres. The cost for parents will be capped at 20% of the minimum wage. The new act also aims to ensure that children from the same family can access the same institution.

In 2010, new amendments came into force under the *Basic Schools and Upper Secondary Schools Act*. These amendments mainly aim to: 1) better clarify the rights and duties of all involved parties (parents, schools, local government); and 2) set bases for management and funding of schools, as well as for state supervision of teaching and school activities. They also aim to help enforce compulsory school attendance and reduce early school leaving. For example, they mandate a regular update of databases to ensure early detection of children with school attendance problems. Also among the objectives of these amendments is improving delivery of support services in schools, such as career counselling and guidance, social pedagogy, psychology, and speech therapy. Starting in 2014, provision of these services is organised through the regional centres of Pathfinder (*Rajaleidja*).

The *Estonian Lifelong Learning Strategy for 2014-20* addresses obstacles to lifelong learning and proposes strategic measures in five areas: 1) changing the approach to learning and teaching; 2) raising the status of the teaching profession and developing school leadership; 3) improving the match between lifelong learning opportunities and the needs of the labour market; 4) applying modern digital technology in learning processes; and 5) creating equal opportunities for lifelong learning for everyone.



Figure 3. Percentage of top and low performers and difference in mathematics performance between non-immigrant and immigrant students, PISA 2012



Note: "Min"/"Max" refer to OECD countries with the lowest/highest values.

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



PREPARING STUDENTS FOR THE FUTURE: ADAPTING VET AND HIGHER EDUCATION TO PROMOTE A TECHNOLOGY-INTENSIVE ECONOMY

The capacity of a country's education system to effectively develop **skills** relevant to the labour market can play an important role in the educational decisions of its population. In Estonia, younger adults (16-24 year-olds) perform above average in numeracy and literacy compared to their peers in other OECD countries participating in the [Survey of Adult Skills](#). Younger adults also perform better than their older counterparts (55-65 year-olds) in numeracy and literacy. While Estonia aims to become a stronger technology-intensive economy (see Spotlight 1), Estonian adults perform below the average on problem-solving in technology-rich environments in this survey. In 2014, 17.4% of 15-29 year-old upper secondary and non-tertiary post-secondary graduates were neither employed nor in education or training (NEET), above the OECD average of 15.8% (Figure 4). At the same time, the employment rate for 25-34 year-olds with upper secondary or post-secondary non-tertiary education was around the OECD average (76%, compared to the OECD average of 75% in 2014) and has increased since the height of the economic crisis (by 6 percentage points since 2010, compared to a 1 percentage point decrease at OECD average). In 2014, overall unemployment rates for individuals from all education levels (6.8%) were below the OECD average (7.3%).

Estonia has one of the highest **upper secondary education** attainment rates among OECD countries. An above-average proportion of 25-34 year-olds attained at least upper secondary education in 2014 (89%, compared to the OECD average of 83%) (Figure 2). More upper secondary students enrolled in general programmes than in other OECD countries (66%, compared to the OECD average of 54%). Career guidance services target primarily lower secondary students (Grades 7 to 9), students at upper secondary schools and vocational educational institutions, and 18-24 year-olds who only have basic education and are currently not studying. Guidance and career counselling can better prepare youth to navigate the complex choices open to them and their transition into work or further learning.

Estonia's enrolment rates in upper secondary **vocational education and training** programmes are below the OECD average (34%, compared to the OECD average of 46%), and vocational graduation rates at upper secondary level (20%) are less than half the OECD average (46%). Graduation rates for post-secondary non-tertiary vocational programmes in Estonia (23%) are almost double the OECD average (12%).

In Estonia, **higher education** is divided into professional higher education and university. Both can lead to a doctorate and are accessible to graduates of general and vocational upper secondary education. Tertiary attainment has increased by 9 percentage points between 2000 and 2014, to reach 40% among 25-34 year-olds (compared to the OECD average increase of 15 percentage points, reaching 41%). Estonia has a larger gender gap in tertiary attainment than other OECD countries. In 2014, around 54% of 30-34 year-old women attained tertiary education (compared to the OECD average of 47%), while men's attainment was 33% (below the OECD average of 37%). At the same time, 35-44 year-old tertiary-educated women who work full time earn 63% of the average earnings of tertiary-educated men (compared to the OECD average of 74%). Unemployment rates for 25-64 year-olds with a university degree in Estonia decreased by 4.4 percentage points between 2010 and 2014 (from 9.1% to 4.7%), while the EU21 average kept increasing to reach 5.7%. According to an [OECD study](#), Estonia would benefit from better co-operation among tertiary education institutions between and across sectors, including strengthened apprenticeships and work-based learning in collaboration with employers.

The challenge: Improving attractiveness and provision of work-based learning and apprenticeships in VET, and making higher education more relevant to the labour-market.

Recent policies and practices

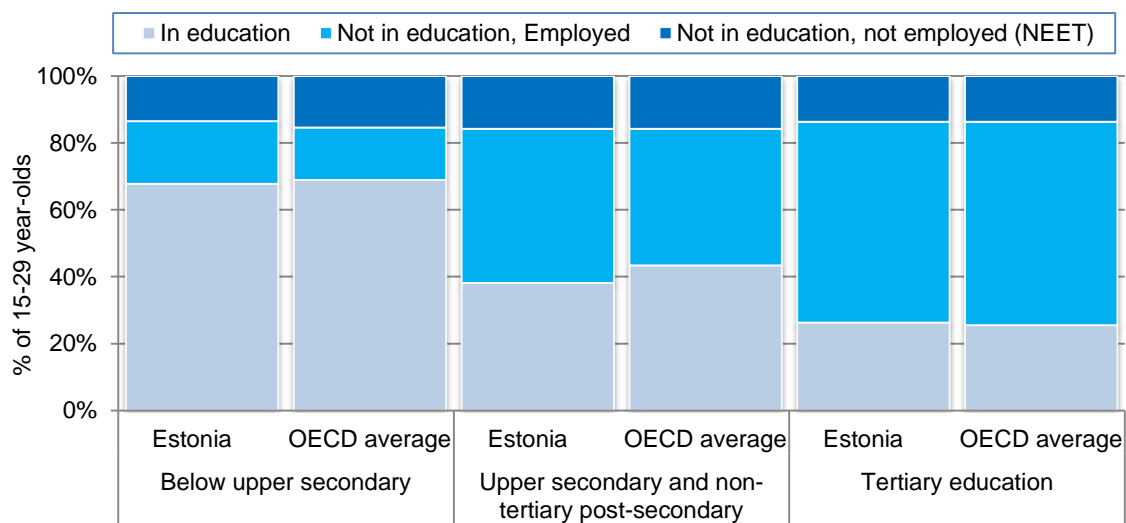
Estonia's national [Lifelong Learning Strategy](#) (2014) aims to increase the proportion of basic education graduates (end of lower secondary) who continue on to upper-secondary vocational education to 35% by 2020 (compared with 27.2% in 2014, according to Estonian authorities) and, also by 2020, to achieve a 60/40 distribution in enrolment in general upper-secondary education and vocational education. To better address the needs of the labour market, Estonia aims to provide more apprenticeships.

In VET, the [main policy actions](#) in recent years have focused on better aligning curricula with labour market requirements. Measures implemented include adoption of new short-term education programmes, integration of more academically oriented subjects and a greater focus on work-based learning.

The [Estonian Youth Guarantee](#) (2015) aims to ensure that young people under age 25 receive a good-quality offer of employment, continued education, an apprenticeship or a traineeship within four months of becoming unemployed or leaving formal education.



Figure 4. Percentage of 15-29 year-olds in education and not in education, by educational attainment and work status (2014)



NEET: Neither Employed, nor in Education and Training

Source: OECD (2015), *Education at a Glance 2015: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2015-en>.



SCHOOL IMPROVEMENT: DEMOGRAPHIC TRANSITION AND AN AGEING TEACHING PROFESSION

The key to greater achievement in Estonia's general education is to support the capacity of school leaders and teachers. Students in Estonia have fewer hours of compulsory instruction time than the average of their peers in other OECD countries: 661 hours annually in primary education (compared to the OECD average of 804 hours) and 823 hours in lower secondary education (compared to the OECD average of 916 hours). In PISA 2012, students reported more positive views of their learning environments as conducive to learning than the OECD average (Figure 5).

Estonia has a larger proportion of female **school leaders** than most other countries participating in TALIS (60.2%, compared to the TALIS average of 49.4%), and school leaders have spent more years in their role (12.1 years, compared to the TALIS average of 8.9 years). Estonian school leaders are responsible for the teaching and learning process and for the legitimate and expedient use of financial resources, and they have the major responsibility for school quality assurance and development. School leaders are in charge of administrative and pedagogical leadership activities, manage their school's financial activities in co-operation with the supervisory body and the Students' Board. They also sign staff employment contracts, establish teachers' salaries, and organise job interviews for vacant teaching posts. School leaders are generally appointed to a permanent position by school owners (mainly municipal governments for public schools). Compared to their peers in other OECD countries, Estonian school leaders engage less in pedagogical leadership (Figure 5). According to an *OECD Review*, school leaders play a crucial role for schools, but there is limited professional development to support them for new responsibilities. Also, with its current school leaders ageing, Estonia could strengthen policies to attract and develop new school leaders.

With an ageing profession, attracting and developing new **teachers** will be important to maintain and enhance the quality of the education system in coming years. Estonian teachers were older than the OECD average in 2014: 50% of lower secondary education teachers were at least 50 years old (compared to the OECD average of 34%), suggesting a possible future teacher shortage. Lower secondary teachers are required to have five years of initial teacher training, including a mandatory teaching practicum, and must follow continuous professional development. According to TALIS, they also have a high level of participation in professional development activities. A slightly larger share of lower secondary teachers in Estonia undertook some professional development activity in the previous 12 months than their peers in other countries participating in TALIS (95%, compared to the TALIS average of 91%). In general, the share of Estonian teachers reporting a positive impact of professional development activities was similar to or higher than the TALIS average. However, a low share of teachers in Estonia (14%) considered that the teaching profession is valued in society (compared to 31% of their peers in TALIS), and 70% would still choose to work as teachers if they could decide again (compared to the TALIS average of 78%).

Teacher salaries are relatively low compared to other OECD countries, but are increasing at primary, lower secondary and upper secondary levels. Primary and secondary teachers' salaries (based on typical qualifications) have increased more than in other OECD countries between 2005 and 2013 (31%, compared to the OECD average of less than 4%). Teaching conditions also include low class sizes, low teacher-student ratios and less teaching time at both primary and secondary levels.

The challenge: Improving attractiveness of the teaching profession to prevent a future teacher shortage.

Recent policies and practices

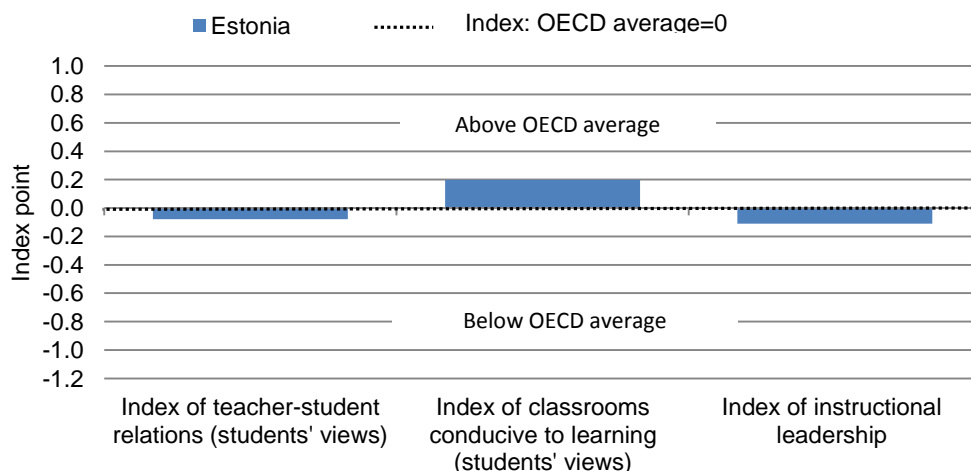
New professional standards for teachers were adopted in 2013 to develop formal and continuous teacher training plans and to assess future teachers' readiness to enter the profession. Continuous training is organised based on the concept of *continuous education of teachers and heads of school*, adopted at the end of 2013 by the Ministry of Education and Research in co-operation with its partners.

A career structure (2014) based on professional standards and the acquisition of competencies has been introduced for both general education teachers (four levels) and vocational education teachers (three levels).

One of the goals of the new *Lifelong Learning Strategy* is to fully align teachers' salaries by 2020 with the earnings for full-time, full-year workers with tertiary education and, also by 2020, to raise the percentage of teachers who are under age 30 to 12.5%.

Under the Lifelong Learning Strategy, a new continuous professional development system for teachers comprises national qualification requirements, professional standards for teachers, a central in-service training system aligned to these professional standards and non-mandatory in-service training hours.

Several new initiatives were launched in 2014 to open general education schools and build better links with a society, including the *Interesting School Initiative (Huvitav Kool)* (2013), based on the notion that schools can and should support students' natural curiosity and creativity.

**Figure 5. The learning environment, PISA 2012**

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

Spotlight 2. Reorganising school networks in Estonia

Due to demographic changes, the number of students at schools in Estonia has decreased by around 40% over the last 15 years. Estonia is therefore currently reviewing its school system to help maintain basic schools close to students' homes, while ensuring quality and diversity of choice in upper-secondary education study choices in county capitals.

According to a report by the Praxis Center for Policy Studies ([Estonian basic and secondary school network analysis in 2020](#)), Estonia should reduce the number of basic and upper secondary education schools by 2020. Reorganisation of the current school network has been underway since 2013/14 and is high on the policy agenda for the Ministry of Education and Research. The following steps have been taken:

1. Analysis of the situation and raising awareness of the need for change (2009-11).
2. Legislative changes (Basic and Upper-Secondary Education Act, 2010) more clearly define the tasks for basic schools (providing more comprehensive development for students) and upper secondary schools (preparing students for further studies and beyond). The legislation also sets different requirements for curricula and learning environments in basic and upper-secondary schools, demanding a larger variety of learning options at upper secondary education.
3. In 2012, discussions on the future of the school network took place across the country, with co-operation between the Ministry of Education and Research and regional and municipal authorities.
4. In 2013, the legislation was modified to clarify the responsibilities of national and local governments for school administration. Under these modifications, the Ministry of Education and Research is in charge of establishing a state-owned upper-secondary school in each regional centre.
5. EU structural funding is being used to create regional upper-secondary schools with modern learning environments. Currently, the ministry is planning to establish 24 state-owned upper-secondary schools. From 2014-20, total funding will be EUR 241 million, including close to EUR 205 million from the European Regional Development Fund.



EVALUATION AND ASSESSMENT TO IMPROVE STUDENT OUTCOMES: STRONG STUDENT ASSESSMENT IN A SMALL EDUCATION SYSTEM

Under the Estonian Constitution, the state defines the **evaluation and assessment framework** that sets priorities for national supervision each school year. County governors carry out thematic supervision accordingly, overseeing teachers' qualifications, organising evaluation and enabling in-service training. The national curriculum must be followed by all schools notwithstanding the language of instruction (Estonian or Russian). Each school develops its own individual curriculum based on the national curriculum and are legally required to spell out learning outcomes for each subject. Some schools may therefore teach certain subjects more than other schools.

System evaluations aim to provide evidence on the overall performance of the education system. Schools receive supervision only when specific issues arise. Estonia also monitors student performance by participating in large-scale international studies, such as PISA.

Schools in Estonia have more autonomy than the OECD average, with greater capacity to make decisions on curriculum and assessment. School evaluations in Estonia are based on instruments such as external inspections, standardised assessment tests, public exams and internal evaluation co-ordinated by the ministry. These are regulated by the [Basic Schools and Upper Secondary Schools Act](#), the [Vocational Educational Institutions Act](#) and the [Pre-School Child Care Institutions Act](#). Also, under a new concept of external evaluation, the performance of a school is shared with the school community. Schools have autonomy over student assessments. There is currently no specific appraisal system for school leaders.

Teacher appraisal is used for career advancement and, to some extent, to determine the need for professional development. School leaders are responsible for evaluating their teachers. More Estonian school leaders than in other TALIS countries reported that teacher appraisal is used for career advancement (58%, compared to the TALIS average of 53%) and to determine the need for professional development (79%, compared to the TALIS average of 73%). At the same time, almost half of teachers (47%) consider that teacher appraisal and feedback have little impact upon the way teachers teach in the classroom (near the TALIS average of 43%). According to school leaders' reports, 2.4% of teachers are never formally appraised (compared to the OECD average of 12.5%) and 7% have never received feedback in their current school (compared to the OECD average of 17%).

Estonia has national **student assessments** at different education levels. At primary level, national assessments do not have formal consequences for students (such as impact on a student's eligibility to progress to a higher level of education or to complete an officially-recognised degree). But at lower and upper secondary levels, the national assessments do have formal consequences for students. Assessments at all education levels comprise at least three subjects: 1) mathematics; 2) reading, writing and literature; and 3) other languages. Estonia reports a higher level of use of central student assessments for formative purposes than for summative purposes. In PISA 2012, for example, Estonia reported more use of assessment data than other OECD countries to make decisions about student retention or promotion (82%, compared to the OECD average of 77%) or to identify aspects of instruction or the curriculum that could be improved (83%, compared to the OECD average of 80%) (Figure 6).

The challenge: Ensuring coherent feedback to improve overall quality of the education system.

Recent policies and practices

Estonia has developed a [new concept of external evaluation](#) (2014). It aims to emphasise the analytical and supportive role of the national level, and make further use of national databases to inform the public and provide feedback to schools on their performance ([Public Information Act](#)).

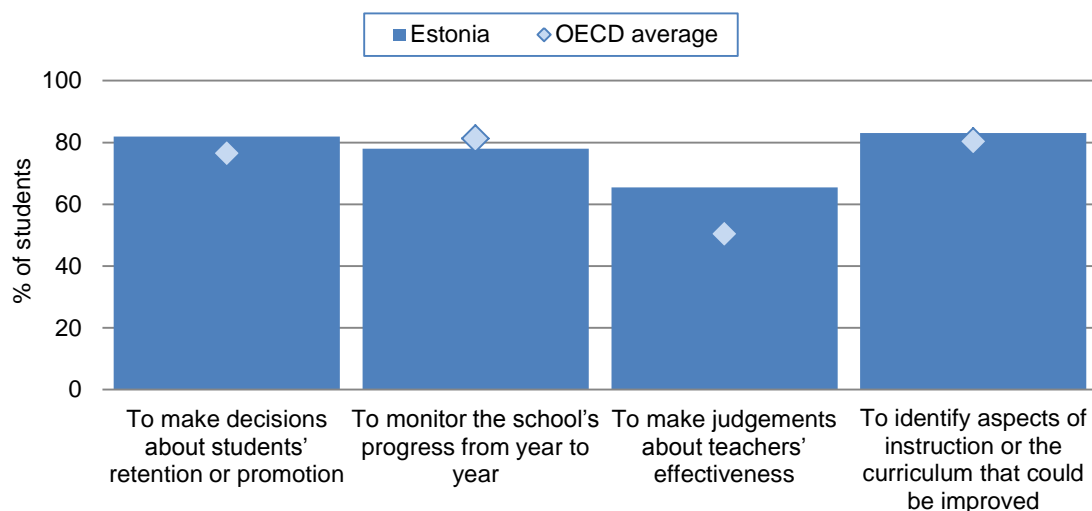
The new concept emphasises assessment of general competences and formative assessment. It also views internal assessment and action plans agreed at school level as central elements of evaluation. The ministry may support schools by counselling for internal performance review.

The [Lifelong Learning Strategy](#) also aims to assess teachers and school principals, including ensuring that their salaries are consistent with qualifications required for the job and work-related performance.

The Estonian Education Data System is among Estonia's recent initiatives to make better use of data (see Spotlight 3).



Figure 6. Percentage of students in schools where the principal reported the following uses for student assessment, PISA 2012



Source: OECD (2013), *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264201156-en>.

Spotlight 3. Making education data available to the public

The *Estonian Education Data System* (EHIS, 2005) is a public database that collects data on educational institutions, students, teachers, graduation, textbooks and curricula. This database also tracks student education paths over time and includes data from institutions such as the Health Insurance Fund, the Citizenship and Migration Board and several banks (for student loan data). Responsibility for accuracy of the data lies with the data provider.

To secure privacy in the system, users must first identify themselves through individual ID cards, and then the access system creates a log file for each user. Private information (such as individual data on education and qualifications and details on teachers and lecturers) is available only to direct users or those for whom use of this information is required by law or international agreement.

The database is used by the National Statistical Office and other data provider institutions for research and monitoring. The Ministry of Education and Research has also made a selection of aggregated education indicators publicly accessible on the Education Eye website (*HaridusSilm*). These data are mainly used by parents, learners, schools, local municipalities and decision makers. Users can now also access information on the national performance of the education system and, if relevant, compare with the goals set for the national Lifelong Learning Strategy 2020.

Several recent system developments aim to promote better use of the data. For example, Estonia is linking EHIS with the tax register to connect education with labour market outcomes for university and vocational education graduates, as well as with PIAAC data for the Nordic PIAAC database, based in Statistics Denmark.



GOVERNANCE: A CENTRAL FRAMEWORK WITH HIGH AUTONOMY AT LOCAL AND SCHOOL LEVELS

The **Ministry of Education and Research** manages administration and development of Estonia's education system, as well as administration and funding of research and development activities at national level. Related tasks include ensuring that education laws are observed, establishing requirements for the national curriculum, establishing rules for national supervision, allocating national funds for education, developing financial norms for local and school budgets, and setting the national framework curriculum. Other bodies also shape education policy:

- The [Estonian Quality Agency for Higher and Vocational Education](#) accredits education institutions.
- [Foundation Innove](#) co-ordinates lifelong learning development activities (mainly for general and vocational education) and implements relevant projects funded through EU structural aid. It also organises training, national assessment, data collection, and analysis and dissemination of education-related information. In 2012, the National Examination and Qualification Centre joined Foundation Innove.
- The [Archimedes Foundation](#) co-ordinates and implements different international and national programmes and projects in the field of training, education and research, mainly related to youth and higher education.
- Municipalities organise the work of pre-primary schools to deliver general education services and some parts of schooling for students with special needs. They also hire school leaders, provide support for career counselling and school psychological counselling, establish school supervisory bodies, implement county plans for educational development, and support lunch catering, medical services and hobby groups.
- Education departments within county governments supervise pre-primary and general education schools, formulate county-level plans for education development, disseminate information on public financing, organise cultural and education events for students and teachers, and advise municipal governments on education issues.
- School supervisory bodies discuss school development plans, review school budget plans and curricula, participate in teacher recruitment processes and school staff appointments, approve salary rates for educational personnel as proposed by school leaders, and organise support for schools.

Within the framework set by the central government, the administration of **Estonian schools** is highly decentralised. Local governments (municipalities) are responsible for children's education and studies in pre-school institutions. Estonian lower secondary schools take 76.3% of decisions related to their schools, one of the highest proportions of decision-making among OECD countries (the OECD average is 40.5%) (Figure 7). In Estonia, most schools are public (97%, compared to the OECD average of 81.7%).

Public universities in Estonia are autonomous bodies, while state professional higher education institutions are more dependent on financial support from the ministry. All public, private and state-owned institutions must be approved by the Estonian Quality Agency for Higher and Vocational Education in order to deliver higher education. This includes the right to issue nationally recognised certificates (see Evaluation and Assessment). There are 24 accredited higher education institutions in Estonia, located in Tartu and Tallinn, with colleges in other towns.

The challenge: Optimising the use of education resources in a context of decentralisation and demographic change.

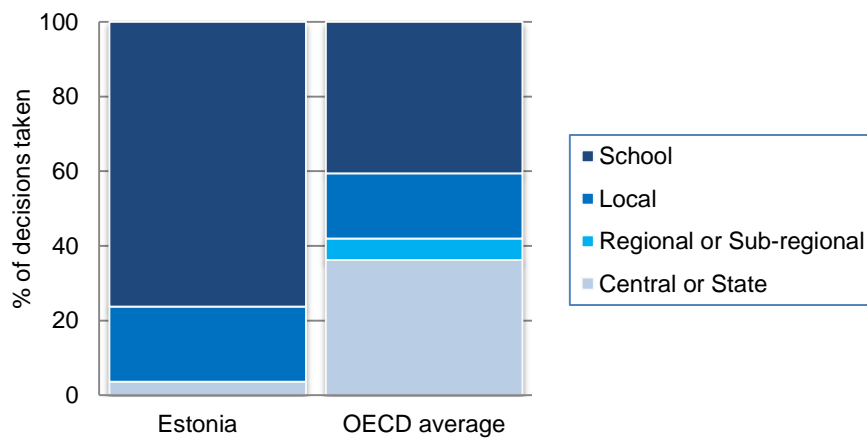
Recent policies and practices

Governance reforms in two of the largest Estonian public universities (the University of Tartu and Tallinn University of Technology) have recently taken place to increase the voice of representatives of society in the universities' decision-making process. The University of Tartu's management reform (2011) resulted in amendments to the Law of the University of Tartu ([Tartu Ülikooli seadus](#)). For Tallinn University of Technology, the law ([Tallinna Tehnikaülikooli seadus](#)) was adopted in 2014. These laws clearly define how the two universities differ from other public universities.

In 2008, Estonia reorganised its quality assurance system for higher education institutions (HEIs). The new system established requirements to allow HEIs to award nationally recognised certificates in different fields of study. The accreditation process formerly did assessments of study programmes, but it is now based on assessments of groups of programmes. Representatives of Estonian employer and professional organisations also took part in this assessment exercise. As part of these changes, new regulations were introduced for institutional accreditation. By law, institutional accreditation must now take place every seven years and provide feedback about the management and work of a university as a whole. In 2015, 14 HEIs had already been submitted to the new institutional accreditation process.



Figure 7. Percentage of decisions taken in public lower secondary schools at each level of government (2011)



Source: OECD (2012), *Education at a Glance 2012: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2012-en>.



FUNDING: INCREASING EFFICIENCY OF PUBLIC SPENDING IN EDUCATION

Estonia has achieved high performance in PISA despite having overall **investment in educational institutions** at most levels of education that is below the OECD average (4.9% of GDP, compared to the OECD average of 5.9%). Estonia's investment in educational institutions is above the OECD average only at tertiary level (1.6% of GDP, compared to the OECD average of 1.5% of GDP) (Figure 8). By far the largest share of expenditure on educational institutions across education levels comes from public sources (93.4% in 2012, compared to the OECD average of 83.5%). From 2005-12, public expenditure at all education levels increased by 5% (compared to the OECD average increase of 14%), and private expenditure decreased by 11% (compared to the OECD average increase of 37%).

Annual expenditure per student (in equivalent USD converted using PPP for GDP) from primary through tertiary level is USD 6 878 in 2012 (below the OECD average of USD 10 220). At primary level, for example, expenditure per student is USD 5 668 (below the OECD average of USD 8 247).

According to the [Basic Schools and Upper Secondary Schools Act](#), the expenses of municipal schools are covered by school owners, who can establish, rearrange and close general education schools. They keep records of the number of school-age children, ensure school attendance, and make arrangements for school meals or school transportation in co-operation with the counties. Based on the number of students in schools, economic support from the state budget in the form of education grants is allocated for teachers' and school heads' salaries and professional development, and for school lunches, textbooks, and investments (e.g. hiring staff to provide special education services). Support is earmarked for specific expenses, and owners of private schools can also receive these grants. In addition to education grants, state support is also allocated through contracts (e.g. for studies that take place in hospitals or prisons). Local governments have the right and the duty to finance private schools in proportion to the number of students enrolled who are residents of the administrative territory of their municipality. An [OECD review](#) finds that current funding conditions for private schools might lead to inefficiency and recommends adjusting public funding of private schools.

In a context of **demographic changes**, with decreasing student numbers in some regions, schools, local and regional authorities perceive the need for planning and reallocating spending to ensure efficient use of funds. According to a Eurydice study, the financial crisis had a limited impact on education spending in Estonia compared to other countries. In 2013, the share of spending on education in Estonia's total public expenditure was 15.4% (compared to the EU average of 10.2%).

The challenge: Ensuring adequate funding to match the decreasing demand for study places, and maintaining the overall quality of education.

Recent policies and practices

Estonia has launched an investment programme to support its strategy to establish a state upper secondary school network for general education across the country. In 2014-20, total funding for this effort will be EUR 241 million, including EUR 204.8 million from the [European Regional Development Fund](#).

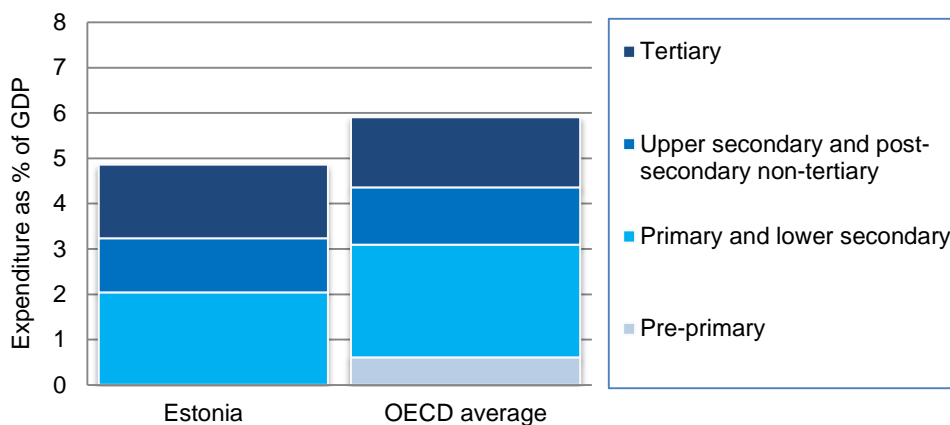
Although salaries of teachers have risen faster in Estonia than the average in OECD countries, current salary levels are considered insufficient to make the teaching profession attractive. Additional funds have been allocated from the state budget to continue increasing teachers' salaries. Other measures include the following:

1. Under changes to the legislation in 2013, government allocations to municipalities for education purposes cannot be used for any other services or costs incurred by municipalities.
2. An information system was created to track government allocations to municipalities. Based on this data, the public can now compare teachers' salaries across municipalities. Previously, there was no verified information on actual salaries.
3. The base for teachers' salaries was changed from contact hours to general working time, and school leaders were given more rights to determine the salary level of individual teachers. These changes make it possible to better value the different types of tasks that teachers perform at schools. By law, salary levels cannot be reduced unilaterally.

[New funding rules](#), implemented starting in the 2013/14 academic year, make higher education free of charge in Estonia for those studying full-time in Estonian. Estonia also introduced a new needs-based student support system, which offers a study allowance of EUR 75-220 per month. Students from disadvantaged backgrounds are eligible if they are studying full-time in Estonian.



Figure 8. Expenditure on educational institutions as a percentage of GDP, by level of education (2012)



Source: OECD (2015), *Education at a Glance 2015: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eaq-2015-en>.

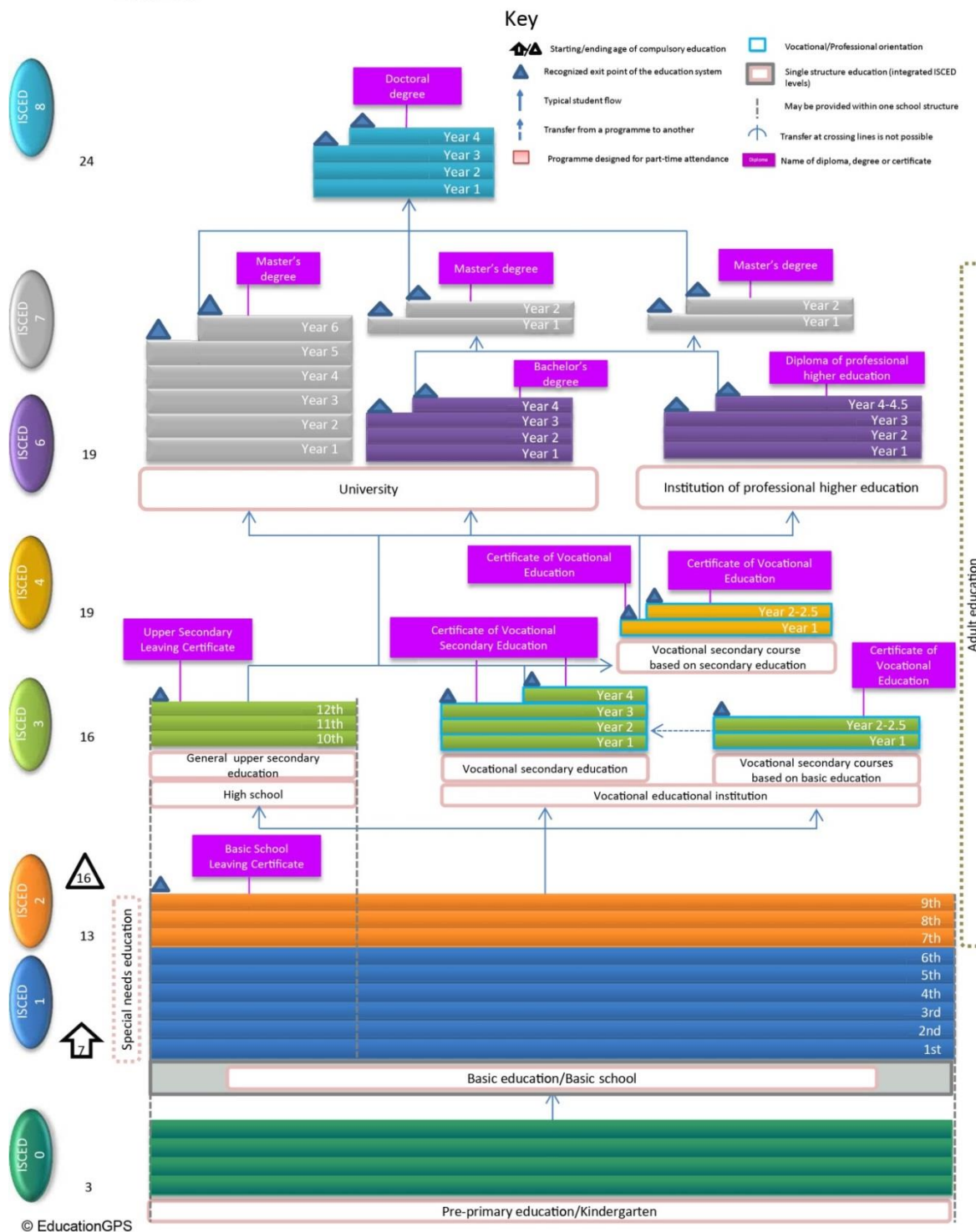


ANNEX A: STRUCTURE OF ESTONIA'S EDUCATION SYSTEM

Theoretical starting age

Estonia

Valid through school year 2013/2014



Source: OECD (2012-13), "Estonia: Overview of the education system", *OECD Education GPS*, http://gpseducation.oecd.org/Content/MapOfEducationSystem/EST/EST_2011_EN.pdf.



ANNEX B. STATISTICS

#	List of key indicators	Estonia	Average or total	Min OECD	Max OECD
Background information					
<i>Political context</i>					
1	Public expenditure on education as a percentage of GDP, 2012 (EAG 2015)	4.4%	4.8%	3.5%	7.7%
<i>Economy</i>					
2	GDP per capita, 2012, in equivalent USD converted using PPPs (EAG 2015)	24 689	n/a	16 767	91 754
3	GDP growth 2013 (OECD National Accounts)	1.6%	1.2%	-3.2%	4.3%
<i>Society</i>					
4	Population density, inhab/km ² , 2014 (OECD Statistics)	30.3	142	3.1	507
5	Population aged less than 15 as a percentage of total population, 2010 (OECD Factbook 2014)	15.3%	18.6%	13.1%	29.6%
6	Foreign-born population as a percentage of total population, 2013 or latest available year (OECD Factbook 2015)	10.1%	n/a	0.3%	43.7%
Education outcomes					
7	Mean performance in mathematics (PISA 2012)	521	494	413	554
8	Annualised change in mathematics performance across PISA assessments (PISA 2012) ^{4,5}	0.9	-0.3	-3.3	4.2
9	Annualised change in reading performance across PISA assessments (PISA 2012) ^{4,5}	2.4	0.3	-2.8	4.1
10	Annualised change in science performance across PISA assessments (PISA 2012) ^{4,5}	1.5	0.5	-3.1	6.4
11	Enrolment rates of 3-4 year-olds in early childhood education and primary education as a percentage of the population of the same age group, 2013 (EAG 2015)	89%	81%	22%	100%
12	% of 25-64 year-olds whose highest level of attainment is lower secondary education, 2014 (EAG 2015)	8%	15%	0.4%	33%
13	% of 25-34 year-olds whose highest level of attainment is at least upper secondary education, 2014 (EAG 2015)	89%	83%	46%	98%
14	% of 25-34 year-olds whose highest level of attainment is tertiary education, 2014 (EAG 2015)	40%	41%	24%	68%
15	% of 25-64 year-olds whose highest level of attainment is vocational upper-secondary or post-secondary non-tertiary education, 2014 (EAG 2015)	33%	26%	6%	67%
Unemployment rates of 25-34 year-olds by educational attainment, 2014 (EAG 2015)					
16	Below upper secondary	15.0%	19.1%	4.7%	55.9%
	Upper secondary and post-secondary non-tertiary	9.2%	10.2%	3.7%	36%
	Tertiary education	6.0%	7.5%	2.9%	32.5%
Students: Raising outcomes					
<i>Policy lever 1: Equity and quality</i>					
17	First age of selection in the education system (PISA 2012)	15	14	10	16
Students performing at the highest or lowest levels in mathematics (%), (PISA 2012)					
18	Students performing below Level 2	10.5%	23%	9.1%	54.7%
	Students performing at Level 5 or above	14.6%	12.6%	0.6%	30.9%
Variance in mathematics performance between schools and within schools as a percentage of the OECD average variance in mathematics performance (PISA 2012)					
19	Between-schools percentage of variance	13%	37%	6%	65%
	Within-schools percentage of variance	64%	63%	34%	90%
20	% of students reporting that they have repeated at least a grade in primary, lower secondary or upper secondary schools (PISA 2012)	3.5%	12.4%	0.0%	36.1%



#	List of key indicators	Estonia	Average or total	Min OECD	Max OECD
21	Percentage of variance in mathematics performance in PISA test explained by ESCS (PISA 2012) ⁴	8.6%	14.8%	7.4%	24.6%
22	Score difference in mathematics performance in PISA between non-immigrant and immigrant students AFTER adjusting for socio-economic status (PISA 2012) ⁴	30	21	-29	66
23	Score differences between boys and girls in mathematics (PISA 2012) ⁴	5	11	-6	25
<i>Policy lever 2: Preparing students for the future</i>					
Adjusted mean proficiency in literacy among adults on a scale of 500 (Survey of Adult Skills, 2012)					
24	Among 16-65 year-olds (adjusted)	m	270.7	249.4	293.6
	Among 16-24 year-olds (adjusted)	m	278.0	260.0	297.0
Upper secondary graduation rates in % by programme of orientation, 2013 (EAG 2015)					
25	General programmes	68%	52%	19%	82%
	Pre-vocational/ vocational programmes	20%	46%	4%	93%
First-time graduation rates, by tertiary ISCED level, 2013 (EAG 2015)					
26	Short tertiary (2-3 years), ISCED 5	m	11%	0%	28%
	Bachelor's or equivalent, ISCED 6	m	36%	9%	61%
	Master's or equivalent, ISCED 7	m	17%	3%	40%
	Doctorate or equivalent, ISCED 8	1.3%	1.7%	0.2%	3.6%
27	% of 15-29 year-olds not in education, employment or training, 2012 (EAG 2015)	15%	16%	7%	32%
Institutions: Improving schools					
<i>Policy lever 3: School improvement</i>					
28	Mean index of teacher-student relations based on students' reports (PISA 2012)	-0.08	0.00	-0.42	0.47
29	Mean index of disciplinary climate based on students' reports (PISA 2012)	0.20	0.00	-0.33	0.67
% of teachers above the age of 50 by education level, 2013 (EAG 2015)					
30	Primary education	38%	31%	16%	57%
	Lower secondary education	50%	34%	17%	63%
	Upper secondary education	50%	38%	26%	73%
Number of teaching hours per year in public institutions by education level, 2013 (EAG 2015)					
31	Primary education	619	772	569	1 129
	Lower secondary education, general programmes	619	694	415	1 129
	Upper secondary education, general programmes	568	643	369	1 129
Ratio of actual teachers' salaries to earnings for full-time, full-year adult workers similarly educated, 2013 (EAG 2015)					
32	Primary education	0.84	0.78	0.52	0.99
	Lower secondary education, general programmes	0.84	0.80	0.52	1.01
	Upper secondary education, general programmes	0.84	0.82	0.48	1.20
33	Growth rate of teachers' salaries between 2005 and 2013 in lower secondary education, 2013 (EAG 2015)	31%	2%	-32%	31%
34	% of lower secondary education teachers who report a "moderate" or "large" positive change on their knowledge and understanding of their main subject field(s) after they received feedback on their work at their school (TALIS 2013)	50.4%	53.5%	26.7%	86.2%



#	List of key indicators	Estonia	Average or total	Min OECD	Max OECD
Policy level 4: Evaluation and assessment to improve student outcomes					
35	Percentage of lower secondary education principals who report that they use student performance and student evaluation results (including national/international assessments) to develop the school's educational goals and programmes (TALIS 2013)	81.5%	88.8%	58.5%	99.5%
% of students whose school principals reported that assessments are used for the following purposes (PISA 2012)					
36	To make decisions about students' retention or promotion	82%	77%	1%	98%
	To monitor the school's progress from year to year	78%	81%	48%	100%
	To make judgements about teachers' effectiveness	65%	50%	14%	88%
	To identify aspects of instruction or the curriculum that could be improved	83%	80%	49%	99%
% of lower secondary education teachers reporting appraisal/feedback from the school principal on their work with this frequency (TALIS 2013)					
37	Once every two years or less	10.3%	33.9%	3.2%	88.8%
	Once per year	60.4%	41.5%	9.5%	82.1%
	Twice or more per year	29.4%	24.7%	1.0%	49.6%
Systems: Organising the system					
Policy level 5: Governance					
% of decisions taken at each level of government in public lower secondary education, 2011 (EAG 2012)					
38	Central or state government	4%	36%	0%	87%
	Regional or sub-regional government	0%	6%	0%	36%
	Local government	20%	17%	0%	100%
	School government	76%	41%	5%	86%
Policy level 6: Funding					
Annual expenditure per student by educational institutions, for all services, in equivalent USD converted using PPPs for GDP, 2012 (EAG 2015)					
39	Pre-primary education	m	8 008	3 416	19 719
	Primary education	5 668	8 247	2 577	20 020
	Secondary education	6 791	9 518	2 904	20 617
	Tertiary education	8 206	15 028	7 779	32 876
Relative proportions of public and private expenditure on educational institutions, 2012 (EAG 2015)					
40	Public sources	93%	83%	60%	98%
	All private sources	7%	17%	2%	40%
	Index of change in expenditure on educational institutions, public sources, (constant prices, 2005=100)	105	114	75	165
	Index of change in expenditure on educational institutions, all private sources, (constant prices, 2005=100)	89	137	76	538
Notes					
1. The average, total, minimums and maximums refer to OECD countries except in TALIS and the Survey of Adult Skills, where they refer to participating countries.					
2. "m": included when data is not available.					
3. "NP": included if the country is not participating in the study.					
4. Statistically significant values of the indicator are shown in bold (PISA 2012 only)					
5. The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA.					
See www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf .					
6. "n/a": included when the category is not applicable.					



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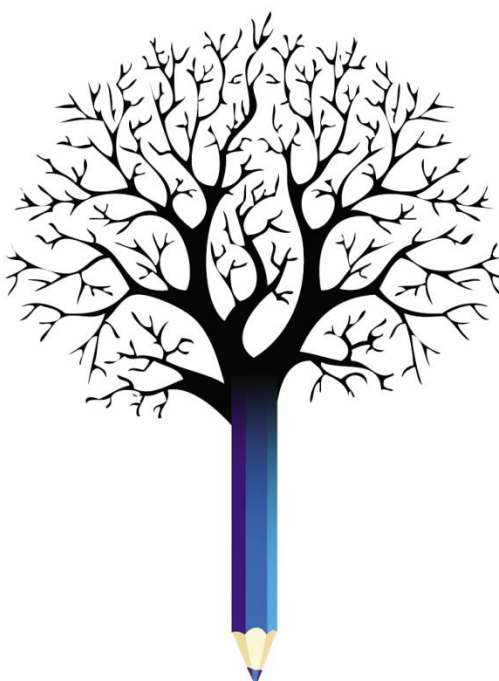
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How to cite this document:
OECD (2016), Education Policy Outlook: Estonia, available at: www.oecd.org/education/policyoutlook.htm



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