Teacher Remuneration in Latvia:

An OECD Perspective

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TEACHER REMUNERATION IN LATVIA: AN OECD PERSPECTIVE

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TABLE OF CONTENTS

Tables

Figures

Boxes

EXECUTIVE SUMMARY

The quality and equity of a country's education system help shape its future. Education policy, therefore, should improve both the quality and equity of the school system as efficiently as possible. Research shows that the single best predictor of student learning and achievement within the school is the quality of the teacher. Education systems thus need highly competent, well-motivated teachers. Although this position is firmly supported by the Latvian government, teacher salaries in Latvia are low by international and national standards.

The Latvian government invited the OECD to conduct a review of the system and this report is a contribution to the ongoing debate in the country. It aims to help Latvia – and other countries – better understand the options for using school funding and teacher remuneration to improve satisfaction of policy objectives.

Chapter One provides an overview of the country, its socio-economic and demographic characteristics, and its education system. It notes that Latvia, a small country with a multi-ethnic population, is currently rebounding from the economic crisis of 2007-09 and is under an imperative to reduce public expenditure. Teacher salaries were reduced sharply, forcing reorganisation of the school network. Changing demographics and low fertility rates amplified the challenge to planning and highlighted the difficulty of retaining many small schools.

Chapter Two shows how, despite these challenges, the Latvian school system performs relatively well, as evidenced by the performance of Latvian 15-year-olds on the OECD's Programme for International Student Assessment (PISA). The evidence also shows, however, that there is an opportunity to decrease the proportion of low-performing students to top-performing ones, an observation also reflected in the government's policy objectives set out in the Latvian *Education Development Guidelines 2014-2020.* In these guidelines, the government recognises that it will have to attract quality human capital into the teaching profession, offer continuous development opportunities, and ensure career advancement as well as attractive working conditions and salaries.

Chapter Three uses international research on school funding and teacher remuneration, as well as teacher policies more generally, setting out the main policy lessons that may be relevant to Latvia. The chapter draws on data from OECD countries as well as policy experience and analysis, referring to a comparison of ten countries conducted as part of this review and summarised in the Annex.

Chapter Four of the report provides an analysis of the current teacher remuneration system in Latvia, in the context of school funding more broadly. This system, implemented in 2009 with the aim of increasing the efficiency of the system and improving its quality, has some clear strengths as well as a number of weaknesses.

Among the strengths are:

- The underlying principle of "money follows the student", designing funding formulas where students are the main drivers for calculating costs, therefore promoting free choice and transparency;

- A funding system that encourages local policy makers to allocate funds efficiently and municipalities to help fund their schools from their own resources.

Weaknesses of the teacher remuneration system include:

- Low salaries and flat pay scale imply a low-status profession unlikely to attract the best graduates or to retain a quality, motivated workforce;

- A formula based on the minimum salary (rather than actual or average salary) which does not recognise seniority;

- Insufficient sensitivity to different student needs;

- A new assessment system has yet to be integrated into teacher remuneration;

- Calculating enrolment (the basis for the funding formula calculations) at the start of the school year causes uncertainty among teachers and hinders effective planning;

- A narrow understanding of teachers' duties which fails to recognise preparation time, marking, and feedback to students as an integral part of quality teaching;

Local autonomy may be considered both a strength and a weakness, depending on its implementation. Latvian municipalities and schools have freedom to reallocate state funds (provided on the basis of the teacher remuneration system formula) in accordance with local circumstances, which allows for flexibility and an effective use of resources. However, these redistributive powers currently cause great variation in teacher remuneration for performing the same tasks, stirring a widespread perception of unfairness.

Based on this analysis, Chapter Five identifies the desired characteristics of a more transparent, goal-oriented system fair to all stakeholders. The report proposes a two-phase approach to reform. The first, shorter-term phase makes small changes to the current system to improve effectiveness and perceived fairness. The second phase builds on the first but entails a significant departure from the current model. With respect to budget planning, any change should:

- Continue the "money follows student" principle as the main driver for staffing schools and education budgeting, as this enables free choice and encourages local policy makers to allocate funds effectively;

- Better reflect the real costs of teaching in different grades and the local circumstances of institutions. Population density should be taken into account more explicitly than differences in teacher-student ratios;

- Incorporate many of the additional duties into the base salary calculation;

- Set an earlier date for establishing student numbers in order to provide stability in forecasting;

- Over the longer term, publish the municipal funding-determination system taking greater account of the family background of students**,** with needs-based variables included in the formula.

To improve the attractiveness of the teaching profession, the system should:

- Increase minimum salaries and offer higher maximum salaries to attract prospective teachers, both women and men. The average earnings for teachers should be comparable to those for other graduate public sector employees with a clear career progression;

- Extend the teacher salary scale to provide more differentiation and incentive. Progression to the top of the scale might consider seniority, completion of continuing professional development, additional responsibilities and a quality assessment;

- Link remuneration to quality, experience and professional levels of teachers. The recently introduced teacher assessment system should be with a view to integrating into the remuneration system. Professional levels can be introduced allowing for sufficient differentiation between levels.

With respect to system management:

- Municipalities and schools should be held responsible for managing the budget allocated to them. Their accountability to government for outcomes should increase. Reducing or removing the 15% coefficient for administration would be one option;

- Although strictly beyond the scope of this review, evidence suggests many municipalities lack the capacity to manage their schools effectively. This important issue should be considered in policy discussions concerning design and implementation of the new teacher remuneration system.

Whatever policy option is chosen, monitoring the impact of the changes should continue and minor adjustments to the system be made. It is unlikely that complete predictability can be achieved, either for teachers or for the government. In a system valuing the freedom of students and parents to choose their schools, and wherein families are at liberty to move, any budgeting process will always be approximate.

INTRODUCTION

In January 2014, the government of Latvia approved the *Education Development Guidelines 2014-2020*. This document sets out the goals for the development of the education system and the directions for their implementation, as well as the corresponding performance indicators and desired political results. According to the Guidelines, the overarching goal for the education system is to provide its citizens with a "quality and inclusive education for personal development, human welfare and sustainable development of the country".

The Latvian government has defined a number of education objectives, including improving the motivation and professional capacity of teachers and academic personnel. Teachers are at the centre of reform efforts for good reason. Although many external factors impact student achievement, the single best predictor of student learning and achievement within the school is the quality of the teacher. The Latvian government recognises its education system will only improve if it can attract quality teachers into the profession, and maintain them by paying fair wages and investing in their professional development. Teacher wages in Latvia are low, especially when compared internationally. Motivation and quality of teachers also vary throughout the nation.

In 2013, the Latvian government invited the OECD to review their teacher remuneration system. This report, the OECD Review of Teacher Remuneration in Latvia, aims to help Latvia and other countries better understand the issues relating to the remuneration of teachers from an international comparative perspective. It draws on lessons from benchmarking education performers, from research and analysis of key aspects of education policy in Latvia, and from the review visits to Latvia undertaken by the OECD review team. The report identifies the main strengths and challenges of Latvia's teacher remuneration system and provides a number of recommendations for further strengthening it, with a short- and longer-term perspective.

Box 1.1. The OECD education policy review process

OECD Education Policy Reviews are tailored to the needs of the country and can cover a wide range of topics and sub-sectors. The reviews are based on in-depth analysis of strengths and weaknesses, using various sources of available data like PISA, national statistics and research documents. They draw on policy lessons from benchmarking countries and economies with expert analysis of the key aspects of education policy and practice being investigated.

Reviews include one or more "review visits" to the county by an OECD review team of experts with specific expertise on the topic(s) being investigated and often include one or more international and/or local experts. A typical Education Policy Review consists of five phases and can be completed within 8 to 12 months depending on the scope of the review: *1)* Definition of the scope; *2)* Desk review and preliminary visit to the country; *3)* Main review visit by a team of experts (in general one to two weeks); *4)* Drafting of the report; *5)* Launch of the report.

The methodology aims to provide tailored analysis for effective policy design and implementation. It focuses on supporting specific reforms by tailoring comparative analysis and recommendations to the specific country context and by engaging and developing the capacity of key stakeholders throughout the process.

Education Policy Reviews are conducted in OECD member and non-member countries, usually upon request by the countries themselves. For more information: www.oecd.org/edu/policyadvice.htm.

This report is part of OECD's increasing efforts to strengthen the capacity for education reform across OECD member and non-member countries and economies following an OECD review methodology (see Box 1.1). The methodology aims to promote effective policy analysis, design and implementation. It focuses on supporting specific reforms by tailored comparative analysis and making recommendations to specific country contexts, and by engaging with and/or developing the capacity of key stakeholders throughout the process.

The review team was led by Richard Yelland, Directorate for Education and Skills, OECD and included Mihails Hazans, University of Latvia; Gaby Hostens, former Director-General in the Department of Education of Flanders, Belgium, and a former Chair of the OECD Education Committee; Maciej Jakubowski, former Under-Secretary of State, Ministry of Education, Poland; and Marco Kools, Directorate for Education and Skills, OECD. Désirée Wittenberg, OECD, provided invaluable research and drafting assistance and compiled the country snapshots. We are also very grateful to the assistance of Seong Won Han (2013 Thomas J. Alexander Fellow, OECD) with the Korean country snapshot.

CHAPTER 1: LATVIA AND ITS EDUCATION SYSTEM: A BRIEF OVERVIEW

The Latvian context: political, demographic and economic situation

The Republic of Latvia is a country in the north-eastern part of Europe, with a long, largely undeveloped coastline along the Baltic Sea. It is bordered by Estonia to its north, Lithuania in the south, and Russia and Belarus to the east. The country had about 2 million inhabitants in 2013 (Central Statistical Bureau of Latvia, 2014) of which about a third resided in Latvia's capital city, Riga, and a third lived in rural areas. Much of the country is composed of fertile lowland plains with a mix of vast forests and agricultural land.

Latvia is a parliamentary republic established in 1918, regaining its independence from the Soviet Union in 1991. Legislative power is in the hands of the *Saeima*, a single-chamber parliament with 100 deputies. The head of the state is the president, who is elected by the parliament for a period of four years. The president signs laws, nominates the prime minister (who leads the government) and performs representative functions. The country has four historical and cultural regions – Kurzeme, Zemgale, Vidzeme and Latgale – that are recognised in the constitution, as well as 109 local governments (*novadi*) and 9 "republican cities" (*republikas pilsētas*) that have their own city council and administration.

Each of the 118 local governments and republican cities has significant responsibility and autonomy for public service delivery. They vary considerably in size, ranging from about 643 600 residents in Riga to below 1 200 residents in the *novads* of Baltinava. The nine republican cities cover 51% of the total population (Central Statistical Bureau of Latvia, 2014).

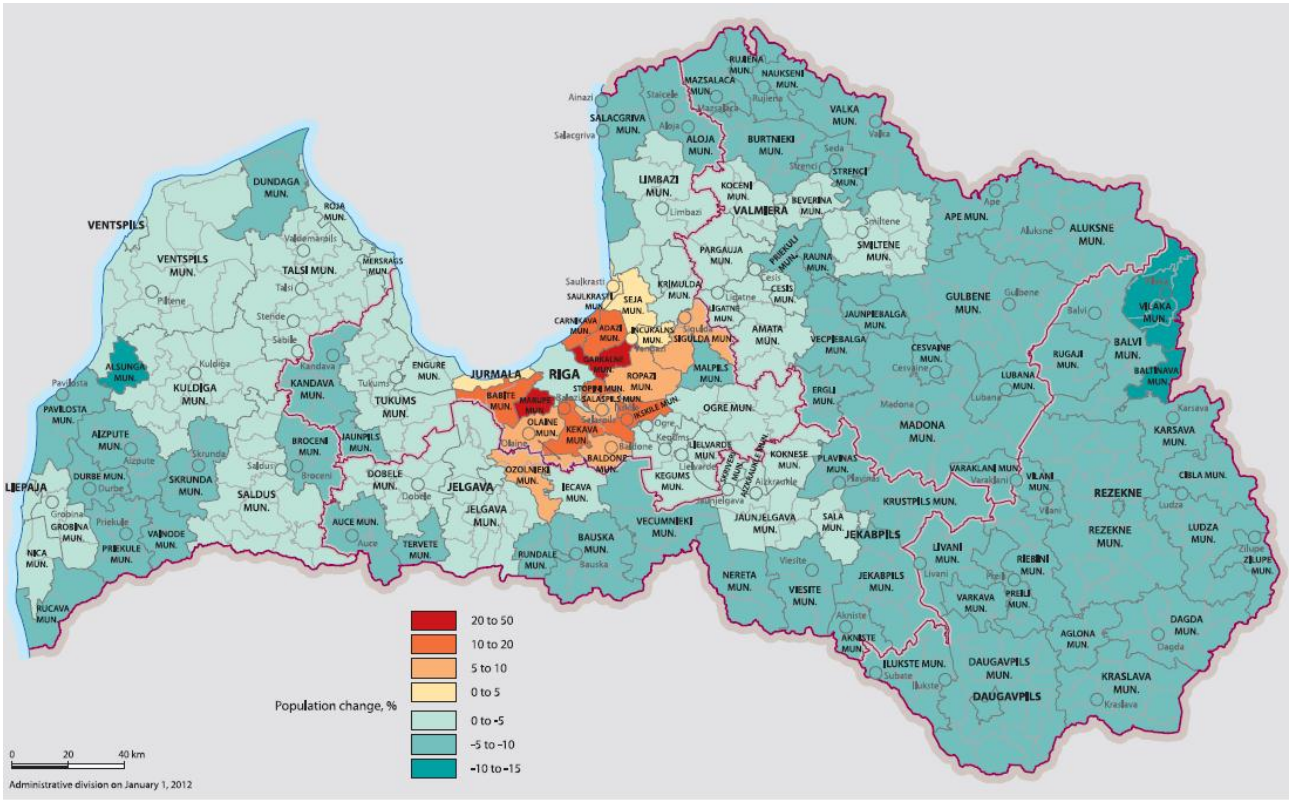
In 2013 the ethnic makeup of the population consisted of 61.1% Latvian and 26.2% Russian with smaller minorities of Belarusians (3.5%), Ukrainians (2.3%), Poles (2.2%), and 4.7% other small minorities, including Lithuanians, Estonians and Livonians (Central Statistical Bureau of Latvia, 2014). Latvians have always been the largest ethnic group in Latvia over the past century, but minority peoples have always been numerous. Despite the decreasing number of Latvians due to low fertility rates, the proportion of Latvians has considerably increased during the past two decades. This is due to large-scale emigration of Russians, Ukrainians and Belarusians whose numbers have almost fallen by half between 1989 and 2011.

Emigration in general has been very high since the beginning of the 21st century. Between 2000 and 2011, Latvia lost 9.1% of its population, including almost 14% of its working-age population, to emigration. Three quarters of adult emigrants are younger than 35 at the time of their departure (Hazans, 2013). The main reasons for emigration, the most popular destinations, as well as the profile of the emigrant population and emigrants' plans, changed substantially during this relatively short period. The most recent wave of emigration is associated with the economic crisis, which affected

Latvia much more than most European countries (Hazans, 2013). The main challenge encountered in Latvia as a result of emigration is the departure of the qualified labour force, including families with children. Migration of Latvians since joining the EU involves both extensive emigration and a concentration of population in the central part of the country (Krišjāne and Lāce, 2012) (see Figure 1.1). Internal migration flows mostly from rural to urban areas of which approximately 40% involves the city of Riga. Analysis of the flow of migration between cities shows that Riga often absorbs people from district centres. One of the main motivations to change residence is the availability of better jobs in the capital city. This means that district centres lose well-qualified professionals (Krišjāne and Lāce, 2012).

In addition the fertility rate (1.44 in 2012) has for many years been considerably below the replacement level (Eurostat, 2014). The Latvian population is shrinking and aging. These rapidly changing demographics have considerable implications for public service planning in Latvia.

Figure 1.1. Internal migration in Latvia, 2011



Source: Ministry of Environmental Protection and Regional Development State Regional Development Agency (2012), *Development of Regions in Latvia 2011*, Ministry of Environmental Protection and Regional Development State Regional Development Agency, Riga, www.vraa.gov.lv/uploads/regionu%20parskats/Regionu%20attistiba%20Latvija%202011%20ENG_Q_ia%20kartes%20horizontali.pdf.

Latvia has experienced particularly volatile macro-economic developments in recent years. Currently, the economy is enjoying a robust recovery from the deep recession of 2007-09 that followed a real estate and financial sector boom in in the years before.. Nevertheless, in 2012 the

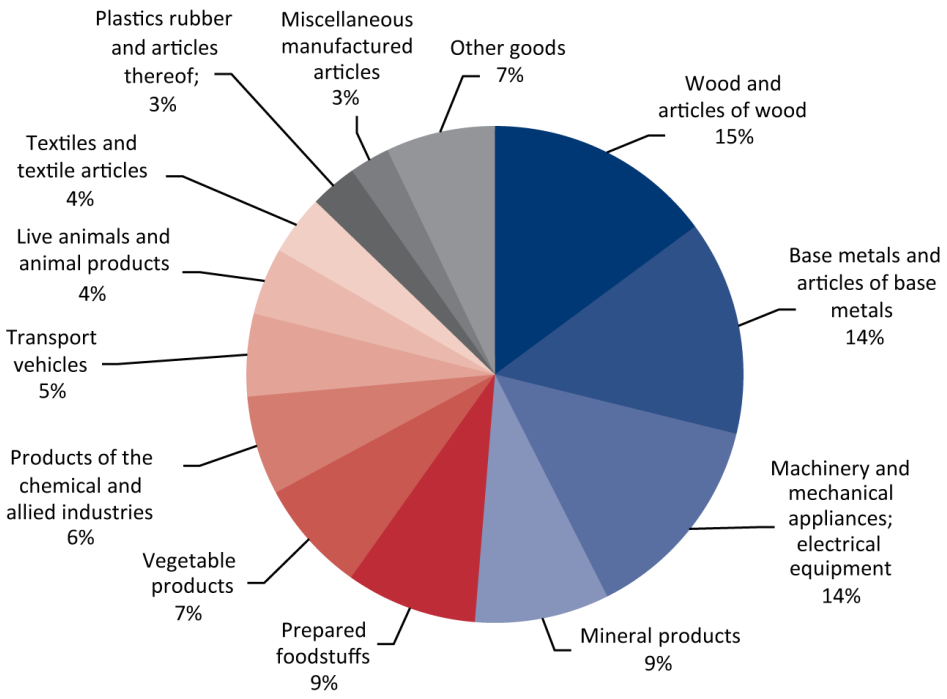
Latvian economy became the fastest growing in the EU. This is also evidenced by the unemployment rate of 15-64 year olds which, after reaching its peak of 21.5% in the first quarter of 2010, dropped to 15.3% in the third quarter of 2011, and to 12% two years later (Eurostat, 2014).

Although the bulk of the country's economic activity is in the services sector, export growth has played a major part in Latvia's recovery. In 2013, compared to 2008, the share of tradable sectors (agriculture, forestry, industry and transport) had increased by almost 10%. Latvian exports after the crisis recovered strongly, increasing by 51% in 2012 compared to their pre-recession peak in 2008, while at the same time gaining an increasing market share (Vanags, 2013).

According to provisional data from the Central Statistical Bureau of Latvia, in 2012 the value of total exports and imports compared to the previous year increased by about 16% and 14% respectively. In 2012, exports to EU countries made up to 70% of the total volume of Latvian exports and increased by 11% compared to the previous year. Important export commodities are wood and articles of wood (15%; also the main export commodities to the EU), followed by base metals and articles of base metals, machinery and mechanical appliances, electrical equipment, as well as mineral products (Figure 1.2). Latvia imports machinery and mechanical appliances, mineral products (18% of the total value respectively), and base metals and articles of base metals (10%).

In 2012, Latvia's most important trading partners were Lithuania (18% of total trade turnover), followed by Estonia, Germany and Russia (10% respectively) (Investment and Development Agency of Latvia, 2014).

Figure 1.2. Latvian exports by sector, 2012

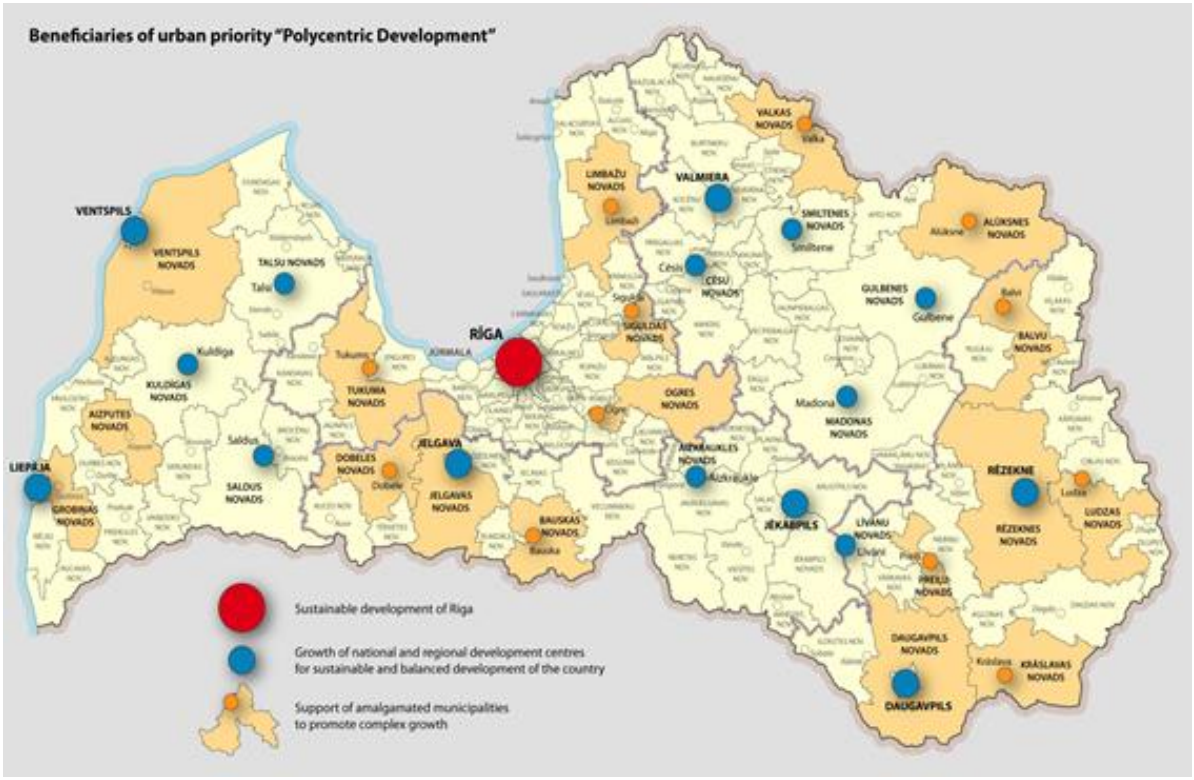


Source: Investment and Development Agency of Latvia (2014).

Despite the recovery the Latvian economy is still underperforming and below that of the EU average. In 2013 the GDP per capita in Latvia was 67% of the EU28 average (Eurostat, 2014). One in five people (20.1%) in Latvia was at risk of poverty[1] in 2012, above the EU28 average of 15.2%. For children this proportion was one in four, with 25.1% being at risk of poverty compared to an EU average of 18.7% (Eurostat, 2014). Moreover, there are considerable differences between regions and municipalities in Latvia. The Latgale region, in the eastern part of the country, in particular has many disadvantaged municipalities, as among others evidenced by the higher unemployment rates, fewer resources available to municipalities and negative migration flows.

To steer regional development the government has developed the Polycentric Development Policy to strengthen the competitiveness, accessibility and attractiveness of the urban environment and city regions (see Figure 1.3). The central government has also recently established a policy framework for planning and providing public services investments in territories. The framework determines the type of services in particular sectors (health, culture, sports, education, social care, etc.) to be provided at each level of settlement. Financially, the European Union supports implementation; however, the framework also depends on the collaboration of municipalities responsible for the planning and provision of public services.

Figure 1.3. The Latvian Polycentric Development Structure



Source: Presentation by Ministry of Environmental Protection and Regional Development (n.d.), "Territorial approach in planning and providing support", published at www.varam.gov.lv/in_site/tools/download.php?file=files/text/publikacijas/publ//TeritPieejaAtbPlanSnieg.pdf.

In the medium to long term, the Latvian economy faces a number of challenges. Maintaining sound fiscal policy and reducing the size of the shadow economy are chief among them (Council of the European Union, 2013). Another challenge is effective use of limited public resources to enhance growth. Opportunity to increase public spending from its current low level is limited as the country is committed to maintaining public finances close to balance. Other challenges relate to the quality of vocational education, social assistance, research and development (R&D) spending and innovation performance, energy, and the efficiency of the judiciary (Council of the European Union, 2013).

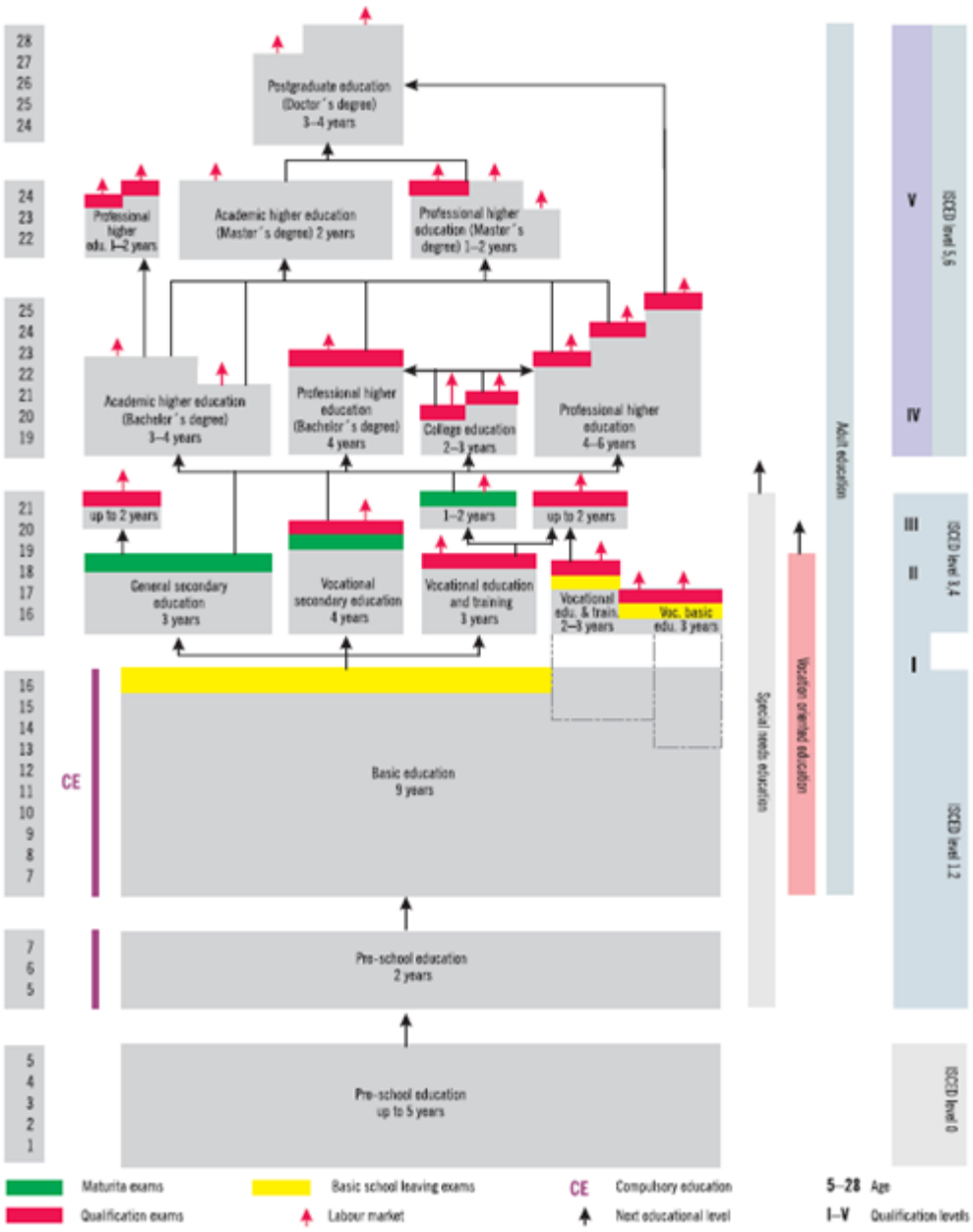
The Latvian school system – a brief overview

Structure

The school system in Latvia is relatively small. There are variations in the number of grades (determining the length of stay) within individual schools. In 2012, 324 200 students (excluding tertiary education) attended 605 kindergartens (93 293 children) and 832 general schools: 48 primary schools (grade 1 to 6), 337 single-structure basic schools (primary and lower secondary; grades 1 to 9), 361 general secondary schools (142 633 students in basic and upper secondary education from grades 1 to 12), 65 vocational secondary education schools (32 086 students), 61 special education schools, and 25 evening and distance education institutions (11 727 students) (Central Statistical Bureau of Latvia, 2014). Due to demographic changes, the absolute number of educational institutions has continually decreased since 2005 as schools were closed or reorganised (Eurypedia, 2014; Central Statistical Bureau of Latvia, 2014). These measures concerned especially small rural schools.

Preschool education (kindergarten) caters for children below the age of six or seven. Kindergartens are established by local governments and private organisations. Since 2002, preschool education for five- and six-year-olds has become compulsory and is considered part of general education (Eurypedia, 2014). The data shows that in 2012 almost 96% of five-year-olds and 93% of six-year-olds were enrolled in preschools (Eurostat, 2014).

Figure 1.4 The Latvian education system



Source: Ministry of Education and Science website, http://izm.izm.gov.lv/education/education-system.html.

Basic education, *i.e.* primary and lower secondary education, is compulsory and lasts nine years (Figure 1.4). Children normally start at age 7 but can enrol one year later or earlier depending on their state of health and psychological preparedness and in conformity with the wishes of their parents and the opinion of the doctor or the psychologist. Basic education is divided in two stages: grades 1 to 6 and grades 7 to 9. At the end of grade 9, students who have obtained the prescribed scores in all subjects are awarded the basic education certificate (UNESCO IBE, 2011).

Upper secondary education is not compulsory, but the proportion of population with a completed upper secondary education is still high – 56.4% of 15 to 64 year-olds compared to an EU28 average of 46.7% in 2013 (Eurostat, 2014). Students may choose between general or vocational programmes, either on a full- or part-time basis (Eurypedia, 2014). General secondary education lasts three years, from grade 10 to 12, and is provided in general secondary schools and gymnasia that can also offer grades 7 to 9. Some of these organise entrance exams. Public general education institutions can organise entrance exams to grade 10 (but not in those subjects in which students have acquired a certificate of basic education). Students who pass the final examinations at the end of grade 12 are awarded the general secondary education certificate (UNESCO IBE, 2011).

Vocational secondary education can be obtained in various institutions, depending on the level of education and the type and characteristics of the programmes offered:

- *Profesionālā vidusskola* or *amatniecības vidusskola* – vocational upper secondary school. Completion entitles a student to continue studies in a higher education institution;
- *Profesionālās izglītības kompetences centrs* – vocational education institutions. They support other vocational education and serve as examination centres, including recognition of informal education.

In Latvia, post-secondary, non-tertiary education (*pēcvidējā izglītība*) programmes (ISCED 4) lie between the upper secondary and tertiary levels of education. They are qualified as upper secondary programmes (Eurypedia, 2014).

Latvia has a relatively small teaching force. In 2012, there were 6 845 teachers working in pre-primary education and 26 094 at primary and secondary levels: 10 296 in primary, 7 636 in lower secondary, 8 162 in upper secondary and 200 in post-secondary non-tertiary education (Eurostat, 2014). All teachers need to be qualified to work in a school and must complete study programmes leading not only to higher pedagogical education, but also to teacher qualification at the respective level of education. Most of these programmes prepare teachers for teaching in particular subjects. Completion of a given programme entitles graduates to teach the subject at the respective level of education. Exemptions exist for early childhood teachers and primary school teachers (classes 1-4) who also receive a teacher qualification for the respective level of education but are entitled to teach most subjects, *i.e.* they are generalists (Eurypedia, 2014).

Governance and financing of the education system

The education system is administered at national, municipal and institutional levels (see Figure 1.5). The Parliament (*Saeima*), the Cabinet of Ministers and the Ministry of Education and Science are the main decision-making bodies at a national level. The Ministry of Education and Science is the education policy-making institution that accredits comprehensive education institutions and sets educational standards and teacher-training content and procedures (Ministry of Education and Science, 2014). Funding for human, operational and capital resources is ensured both by the state and local governments (see Figure 1.5 for the funding of public primary and general secondary schools).

Branch ministries, like the Ministry of Culture, supervise vocational schools and gymnasia, technical schools, colleges and higher education institutions. Branch ministries also finance institutions under their responsibility.

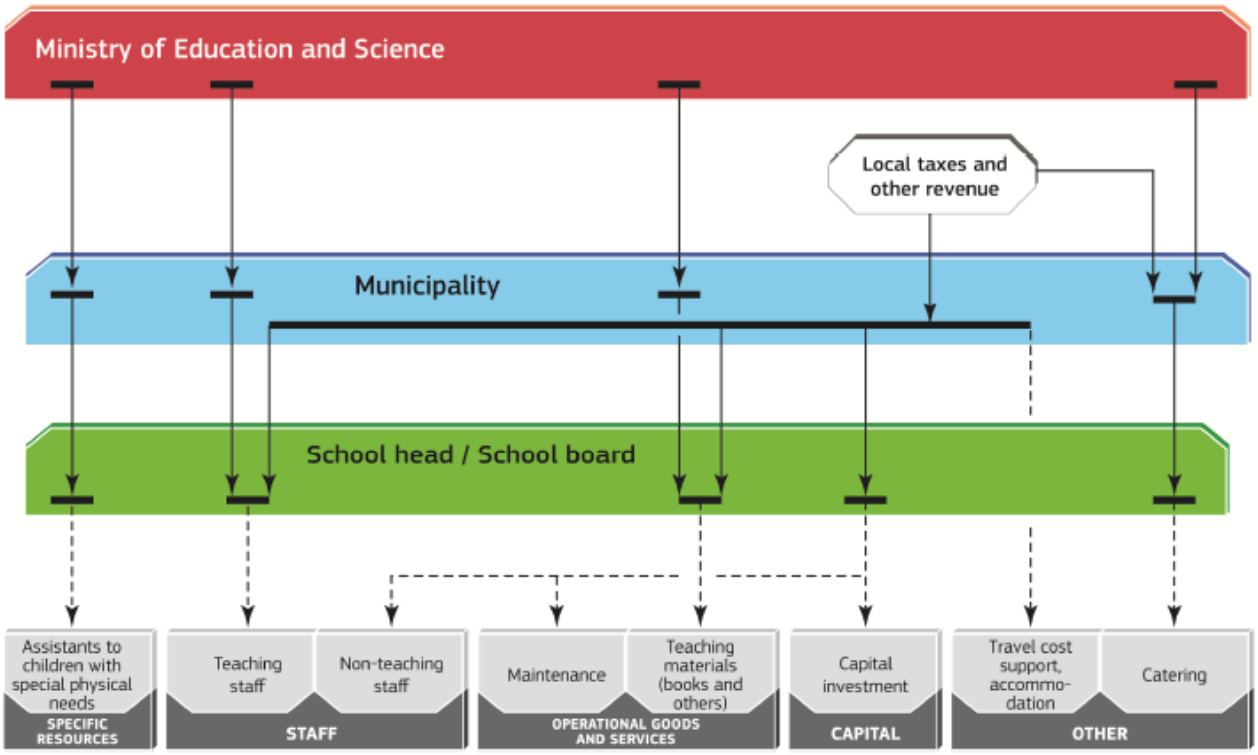
At the municipal level, the *novadi* (local governments) and city governments supervise preschool institutions, as well as elementary, basic and general secondary education schools, with the exception of the national and private education institutions. The pattern of schools varies between municipalities. In mostly rural areas, the local school may cater for children from preschool level starting only at age 5 up to grade 6, *i.e.* the end of basic education (13 years of age). In other areas, children do not necessarily change school until grade 9 or grade 12.

Schools establish councils to ensure the cooperation with the local government and parents. Schools in Latvia have considerable autonomy (OECD, 2013). For example, they assume full authority over the use of funds as approved by their founding body (municipality or city government) and the employment of teaching staff (OECD, 2013; Eurydice, 2007).

The tuition at preschool, basic and secondary education in state- or municipality-funded educational establishments is apportioned from the national or municipal budget. Private educational institutions may set tuition. In vocational education, the state covers all costs for staff remuneration, student scholarships, cultural education and sports. Remaining vocational funding is provided by the schools themselves.[2] The principle of "money follows student" (see Chapter 4) is applied not only to teacher salaries, but to the entire funding mechanism. In higher education programmes, the state covers tuition for a certain number of students, according to the distribution of state-funded study places for a given academic year. Each higher education institution may set tuition for the remaining study places. All students are entitled to state credit for studies in any higher education programme (Ministry of Education and Science, 2014).

The Education Inspectorate is a supervisory body responsible for inspecting all public and private education institutions under the responsibility of the Ministry of Education and Science.

Figure 1.5. Education funding in Latvian primary and general secondary schools, 2014



Source: European Commission/EACEA (2014), *Financing Schools in Europe: Mechanisms, Methods and Criteria in Public Funding: Eurydice Report*, Publications Office of the European Union, Luxembourg.

NOTES

1. At risk of poverty rate, cut-off point: 50% of mean equivalised income.

2. The majority of vocational institutions are state-owned and -run.

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CHAPTER 2: BENCHMARKING EDUCATION IN LATVIA FROM AN INTERNATIONAL PERSPECTIVE

Student outcomes

Quality education systems focus on learning measured in terms of student outcomes. While it is sometimes difficult to measure student outcomes broadly in a reliable way, the OECD and other international organisations provide useful benchmarks against which each country can compare its performance. The OECD's Programme for International Student Assessment (PISA) provides benchmarks not only for average student performance across several domains, but also compares equity across education systems and outcomes in specific student groups, such as rural students. Another strength of the PISA study is that the assessment of 15-year-old students in skills is not directly linked to the school curriculum, but rather examines to what extent they can apply their knowledge to real-life situations.

Latvia participated in all PISA cycles starting from 2000 until the most recent PISA in 2012 (OECD, 2001, 2007, 2010a, 2014a). PISA results are normalised to a mean of 500 for OECD countries and, while this average changes slightly across years, it can serve as a useful benchmark. The results of Latvian students in PISA 2000 were below the OECD average, while later editions of PISA suggested that learning outcomes in Latvia have come closer to the average (see Table 2.1). Latvia made significant progress between 2000 and 2003 while recently only a slight improvement is observable.

Table 2.1. Average performance of Latvian students in PISA since 2000

	2000	2003	2006	2009	2012
Reading	458	491	479	484	489
Mathematics		483	486	482	491
Science			490	494	502

Sources: OECD (2014a), P*ISA 2012 Results: What Students Know and Can Do – Student Performance in Mathematics, Reading and Science* (Volume I, Revised edition, February 2014), PISA, OECD Publishing, Paris; OECD (2010), *PISA 2009 Results: What Students Know and Can Do (Volume I): Student Performance in Reading, Mathematics and Science*, PISA, OECD Publishing, Paris; OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World: Volume 1: Analysis*, PISA, OECD Publishing, Paris; OECD (2001), *Knowledge and Skills for Life – First Results from PISA 2000, PISA*, OECD Publishing, Paris.

Latvia also participated in other international studies including the Progress in International Reading Literacy Study (PIRLS) in 2001 and 2006, and the Trends in International Mathematics and Science Study (TIMSS) in 1995, 1999, 2003 and 2007. Overall, these studies confirm the

improvement of Latvian students. While the latest results of TIMSS suggest much better standings when comparing to other countries, it should be noted that Latvian 4th graders who participated in TIMSS 2007 where on average older than in other countries, which could affect the comparisons (Latvian students were on average 11 years old, while in other countries the average age was closer to 10). Similarly, relatively higher results of Latvian 8th graders in the TIMSS 2003 study can also be explained by the fact that Latvian students were on average half a year older than their counterparts in other countries.

Results of PIRLS also suggest higher standing for Latvian students in international rankings. Similarly to TIMSS, Latvian students tested in PIRLS were on average one year older than those in Belgium or Poland. While these studies provide useful insight into how learning and teaching translates into student performance in Latvia, they should be read with caution when using them for international benchmarking.

Although average performance provides an easy way to compare learning outcomes among countries, it is often misleading for policy purposes. Average performance sometimes hides large variations in learning outcomes. Table 2.2 shows the share of students who lack basic skills (those who are below the PISA proficiency level 2) and the share of students who possess top-level skills in each area (those who are at the PISA proficiency level 5 or above). A positive finding is that when comparing to the OECD average the share of Latvian students lacking basic skills is smaller. Having said that, it is still true that 17% of students in Latvia lack basic reading skills, while almost 20% lack basic skills in mathematics and around 12% in science (OECD, 2014a). In all cases there is a considerable share of students who need improvement.

Table 2.2. Percentage of students at PISA proficiency levels, PISA 2012

	Proficiency levels in PISA 2012					
	below Level 2			Level 5 or above		
	reading	mathematics	science	reading	mathematics	science
Latvia	17.0	19.9	12.4	4.2	8.0	4.4
OECD average	18.5	23.0	17.8	8.5	12.6	8.4

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

The share of top-performing students is also smaller in Latvia when compared to the OECD average. In PISA 2012, a mere 8% of Latvian 15-year-olds demonstrated mathematics skills at the highest proficiency levels compared to an OECD average of 12.6%. In reading and science the shares of top-performing students were 4.2% and 4.3% respectively, about half the OECD average.

In response, the Latvian government set policy objectives and targets that it aims to achieve by the year 2020, with respect to the European Education and Training 2020 Strategy. Latvia wishes to reduce the proportion of low performers in reading, mathematics and science to 13%, 15% and 10%

respectively by 2020. In terms of the proportion of top performers Latvia aims for 7% in reading, 8% in mathematics, and 8% in science. The target has already been achieved for mathematics. Further improvement in teaching and learning is needed if Latvia is to achieve the reading and science objectives.

The above suggests that Latvian performance differences among the lowest- and top-performing students are slightly lower than the OECD average. In fact, their performance variation is one of the smallest among OECD countries. Although this is positive, it also reflects the relatively small number of top-performing students in Latvia.

The relationship between students' socio-economic background and performance is another important factor when interpreting PISA results. A strong relationship suggests that the school system is unable to overcome differences in students' family background. On the other hand, it is important to note that countries do differ in the composition of their student populations. Student diversity and the variety of prior knowledge and experience, including learning styles, interests, motivation, emotions, linguistic, cultural and social backgrounds shape learning (OECD, 2012). The composition of the student population is more heterogeneous in some countries than others. Embracing this diversity is a challenge, often requiring additional resources.

PISA uses its own complex index to measure students' socio-economic background and its impact on student performance. The PISA index of economic, social and cultural status (ESCS) reflects parents' education and occupation as well as family wealth, cultural and educational resources. The higher this index, the greater the influence students' socio-economic background has on their performance. PISA 2012 shows a strong relationship between ESCS index and student performance observed in all countries (OECD, 2013a). Family background is crucial for student achievement. However, the relationship is more pronounced in some countries than in others.

Table 2.3 shows the mean and variation of the ESCS index in Latvia compared to the OECD average. It also shows mathematics performance without adjustment after taking into account differences in students' socio-economic background across countries. The results show that the economic, social and cultural status of students in Latvia is on average lower than in OECD countries, but the variation within the country is similar to the OECD average. After taking into account that students in other countries have better family resources on average, the performance of Latvian students, adjusted for their socio-economic background, seems to be higher than the original one. Still, even after these adjustments the Latvian results hover around the average, so lower socio-economic background cannot fully explain the performance gap between Latvian students and their peers in the top-performing countries.

Table 2.3. Latvia and OECD average ESCS index, PISA 2012

	PISA index of economic, social and cultural status		Unadjusted mathematics mean score	Mathematics performance adjusted by the mean ESCS
	Mean	Standard deviation	Mean	Adjusted mean
OECD average	0.00	0.90	494	495
Latvia	-0.26	0.89	491	500

Table 2.4 summarises the relationship between student socio-economic background and performance on PISA 2012. In all aspects, the strength of this relationship in Latvia is close to the OECD average or even below it. For example, in Latvia student socio-economic background explains around 14.7% of the overall variation in mathematics performance, while on average across OECD countries it explains 14.8%. In other words, while there is a strong link between student background and performance in Latvia, the same link is observed in all countries. The relationship in Latvia is no weaker or stronger than on average. This modest relationship suggests that while there are visible differences among students from different socio-economic backgrounds, the school system at least does not exacerbate them. It also shows that Latvia could learn from more equitable school systems like those of Estonia or Canada, where the difference in mathematics performance between disadvantaged and privileged students is much smaller. This is mostly due to policies that assist students from families or regions with lower economic, social and educational resources.

Table 2.4. Relationship between ESCS and student performance, PISA 2012

	Strength of the relationship between mathematics performance and ESCS (% of explained variance)	Slope of the socio-economic gradient for mathematics[1]	Strength of the relationship between reading performance and ESCS (% of explained variance)	Slope of the socio-economic gradient for reading[1]	Strength of the relationship between science performance and the ESCS (% of explained variance)	Slope of the socio-economic gradient for science
OECD average	14.8	39	13.1	38	14.0	38
Latvia	14.7	35	14.0	36	11.9	30

[1]Single-level bivariate regression of performance on the ESCS, the slope is the regression coefficient for ESCS.
Note: All the effects presented in the table are statistically different from zero. Results are based on bivariate regression of performance on the ESCS; the slope is the regression coefficient for ESCS.

Teacher policy relates both student and school performance. The variation in student performance among schools tells how equitable the learning outcomes are. The measure also lends insight to differences in teacher working conditions, qualifications and motivation (see Table 2.5). The overall variance in mathematics performance among 15-year-old students is much smaller in Latvia than on average across OECD countries. These positive results show the strength of the Latvian school system: while schools do not differ much in terms of performance, the existing differences are related to the socio-economic background of students attending different schools.

Table 2.5. Variance in student performance between and within schools, PISA 2012

	As a percentage of the average total variation in mathematics performance across OECD countries			Percentage of the overall variation in mathematics performance explained by student ESCS		
	Total variance	Between schools variance	Within schools variance	Overall	Between-school	Within-school
Latvia	79.1	19.9	57.9	14.7	35.2	5.5
OECD Average	100.0	36.9	63.3	14.8	27.8	5.1

It is also important to look at performance differences in between Latvian students attending schools in rural and urban areas (see Table 2.6). Compared to the OECD average, many more students attend schools in rural areas than in urban ones. While students in large cities have almost the same socio-economic background in Latvia (ESCS equal 0.12 in Latvia vs. the OECD average of 0.15), this is not true for the rural students. Those in rural areas are not only more numerous than on average (almost 25% of students are in rural schools, compared to less than 10% in the OECD countries), but have also much lower socio-economic background (-0.79 in Latvia vs. -0.33 on average). Latvian students in towns or cities have much higher socio-economic status (-0.22 in towns compared to -0.79 in rural areas). These figures emphasise the challenge Latvia faces in terms of supporting rural students.

Table 2.6. Student numbers and mathematics performance of students attending a school in a village, hamlet or rural area, PISA 2012

	Students attending schools located in a village, hamlet or rural area (fewer than 3 000 people)		Students attending schools located in a town (3 000 to 100 000 people)		Students attending schools located in a city or large city (over 100 000 people)		Students attending schools located in a village, hamlet or rural area (fewer than 3 000 people)		Students attending schools located in a town (3 000 to 100 000 people)		Students attending schools located in a city or large city (over 100 000 people)	
	Percentage of students						PISA index of economic, social and cultural status (ESCS)					
	%	S.E.	%	S.E.	%	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
OECD average	9.4	(0.3)	55.9	(0.5)	34.7	(0.5)	-0.33	(0.0)	-0.04	(0.0)	0.15	(0.0)
Latvia	24.8	(1.6)	44.2	(1.8)	31.0	(1.9)	-0.79	(0.0)	-0.22	(0.0)	0.12	(0.0)
	Average performance in mathematics						Average performance in mathematics after accounting for ESCS					
	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.
OECD average	468	(2.4)	493	(0.9)	504	(1.2)	479	(2.0)	494	(0.7)	498	(1.0)
Latvia	461	(5.1)	493	(3.3)	513	(5.9)	486	(5.2)	501	(2.8)	508	(4.9)

Across OECD countries, students in rural schools perform less well on average, but the performance gap between rural and urban areas is larger in Latvia. Table 2.7 shows performance differences of students by location calculated for countries with a sufficiently large population of students living in rural areas. Across OECD countries, urban students outperform rural students by 31 points. In Latvia this difference is above 50 points, half of the standard deviation. Although a large part of this gap can be associated with the lower socio-economic background of rural students, student background cannot be the sole explanation. Even after taking background differences into account the gap remains substantial, with rural students in Latvia performing above 20 points lower (one-fifth of the standard deviation) than their colleagues in city schools. The gap is 16 points lower in town schools. Similar gaps across OECD countries are much smaller and equal to 13 and 4 points for city and town schools, respectively. Overall these results from PISA suggest the large learning disadvantage of rural students is partly related to lower family socio-economic and cultural resources, but it might be also affected by differences in the teaching quality.

Table 2.7. Differences in mathematics student performance by school location, PISA 2012

	Without taking into account students socio-economic background						After adjusting for differences in students socio-economic background					
	Students in town schools compared with rural schools		Students in city schools compared with town schools		Students in city schools compared with rural schools		Students in town schools compared with rural schools		Students in city schools compared with town schools		Students in city schools compared with rural schools	
	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.	Score dif.	S.E.
OECD average	20	(2.6)	11	(1.6)	31	(2.8)	11	(2.1)	4	(1.3)	13	(2.2)
Latvia	32	(6.4)	19	(6.6)	52	(7.6)	16	(5.8)	8	(5.4)	21	(7.0)

Expenditure on education and teacher salaries

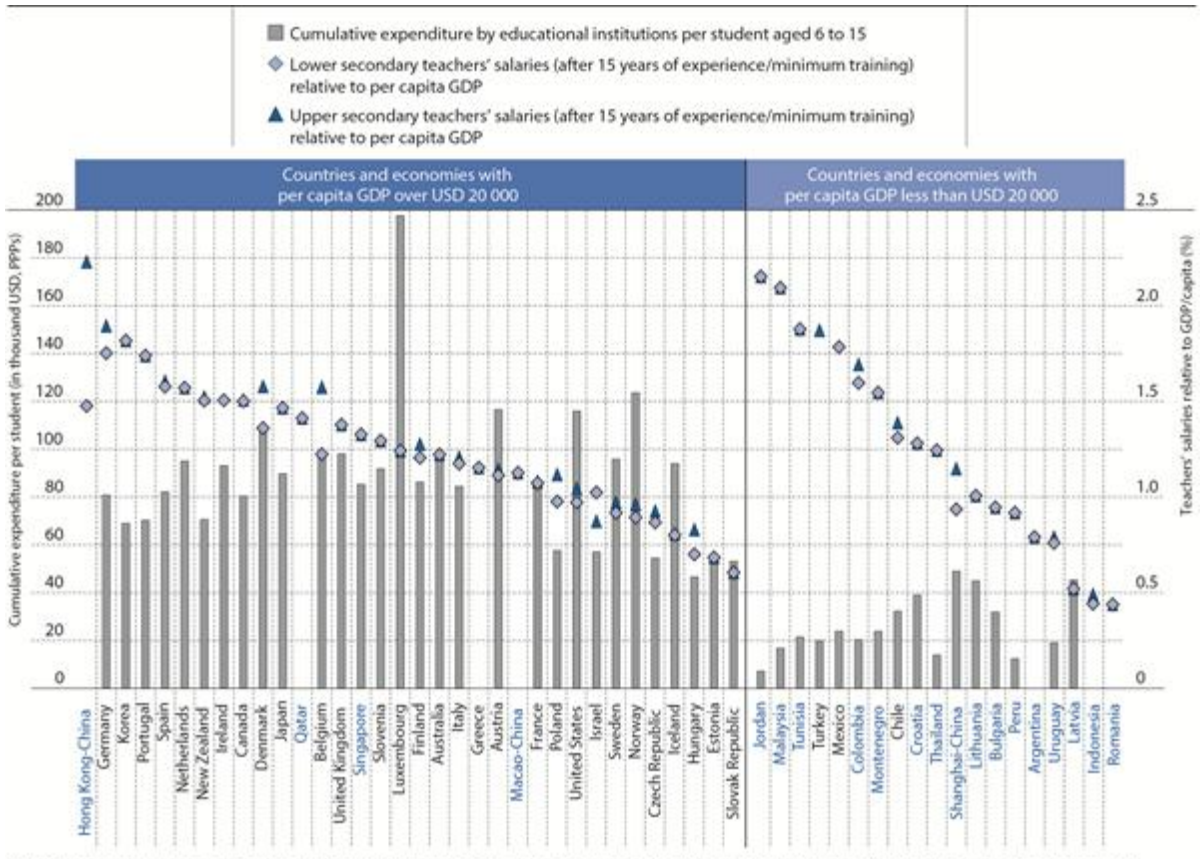
Countries invest in education to improve their economic conditions, develop a skilled workforce, make a contribution to social and personal development, and increase equity (OECD, 2013a). The demand for quality education, which can mean higher cost per student, must be balanced against other demands on public expenditure and the overall burden of taxation (OECD, 2011). High public expenditure on education as a percentage of total public expenditure is a good indicator of the gravity a government places on these imperatives compared with other public services such as health, social protection or defence.

In 2011 the overall expenditure on all levels of education combined for Latvia amounted to 5.4% of GDP, which was below the OECD average of 6.1% and the EU21[1] average of 5.8%, and considerably below some of the top-performing education systems on PISA: Korea and Finland spent 7.6% and 6.5% of their GDP, respectively. Excluding pre-primary and tertiary education, OECD countries spent 3.8% of GDP on primary and secondary education, while Latvia spent 3.0% (OECD, 2014b).

Cumulative expenditure per Latvian student from the age of 6 to 15 of USD 45 342 in 2010 is also low when compared to OECD countries.[2] Only Chile, Mexico and Turkey spent less per student in this age group. On the other hand, this expenditure exceeds USD 100 000 in Luxembourg, Switzerland, Norway, Austria, the United States and Denmark (OECD, 2014b; OECD, 2013b). Countries such as the Czech Republic, Estonia, Poland, the Slovak Republic and Slovenia also had a higher cumulative per-student expenditure than Latvia, exceeding Latvia's figure by roughly USD 8 000 in the Slovak Republic, USD 9 000 in the Czech Republic, USD 10 000 in Estonia, USD 12 000 (for public institutions) in Poland and over USD 45 000 (for public institutions) in Slovenia.

High student expenditure does not necessarily result in better student performance. The way in which funds are invested makes a difference (OECD, 2010b; Grubb, 2009). In Norway the total expenditure by institutions per student from the age of 6 to 15 was more than twice that of Poland, but Polish students still outperformed those in Norway in PISA 2012 in all three test subjects. PISA 2012 data nevertheless shows the relationship between spending and performance is positive for countries with cumulative expenditure per student below USD 50 000. Latvia falls into this category (OECD, 2013b).

Figure 2.1. Expenditure on education and teacher's salaries, 2010



Notes: Teachers' salaries in Belgium are the average teachers' salaries of the French and Flemish communities of Belgium. Teachers' salaries in the United Kingdom are the average teachers' salaries in England and Scotland.
Countries and economies are ranked in descending order of teachers' salaries (average of lower and upper secondary teachers' salaries).
Source: OECD, PISA 2012 Database, Tables IV.3.1, IV.3.2 and IV.3.3.

High-performing education systems prioritise higher salaries for teachers (OECD, 2013b). Existing research on teacher human capital indicates teachers in high-performing school systems such as in Canada, Finland, and many of the more economically prosperous countries of East and South East Asia, pay such that academically able people are not deterred from entering the profession (OECD, 2014c). They also enjoy high status in society and often must pass competitive examinations to start training or enter the profession.

School systems differ not only in teacher pay, but in the structure of pay scales. Lower secondary teacher salaries in OECD countries after 15 years of experience are on average 124% of GDP per capita (corrected for differences in purchasing power parities). For upper secondary this is 129% of GDP per capita. In Latvia, however, a lower secondary or upper secondary salary for a teacher who has been in service for the same duration amounts to only just 52% of GDP per capita for teachers at both levels (OECD, 2013b).

After 15 years a lower secondary teacher in Latvia reaches the top of the salary scale. While the maximum statutory salaries are more than double the starting salaries in countries like Ireland, Cyprus, Hungary (secondary level), Austria (secondary level) and Romania, the difference between the minimum and the maximum annual gross statutory salaries is only 4% in Latvia, the lowest increase among all EU countries (European Commission, 2013).

The low salary and very flat pay scale structure for Latvian teachers stand at odds with the government's ambition to raise the motivation and professional capacity of teachers and academic personnel. Apart from motivating practicing teachers, attracting the best graduates into the profession and retaining them is likely to remain a challenge for the Latvian education system for the years to come if this situation persists. Higher salaries help school systems ensure a quality teaching force recruited from the best possible candidates. Doing so signals that teachers are regarded and treated as professionals. Paying teachers well is only part of the equation: school systems must also nurture and retain their best teachers (OECD, 2013b).

Teacher profiles and qualifications

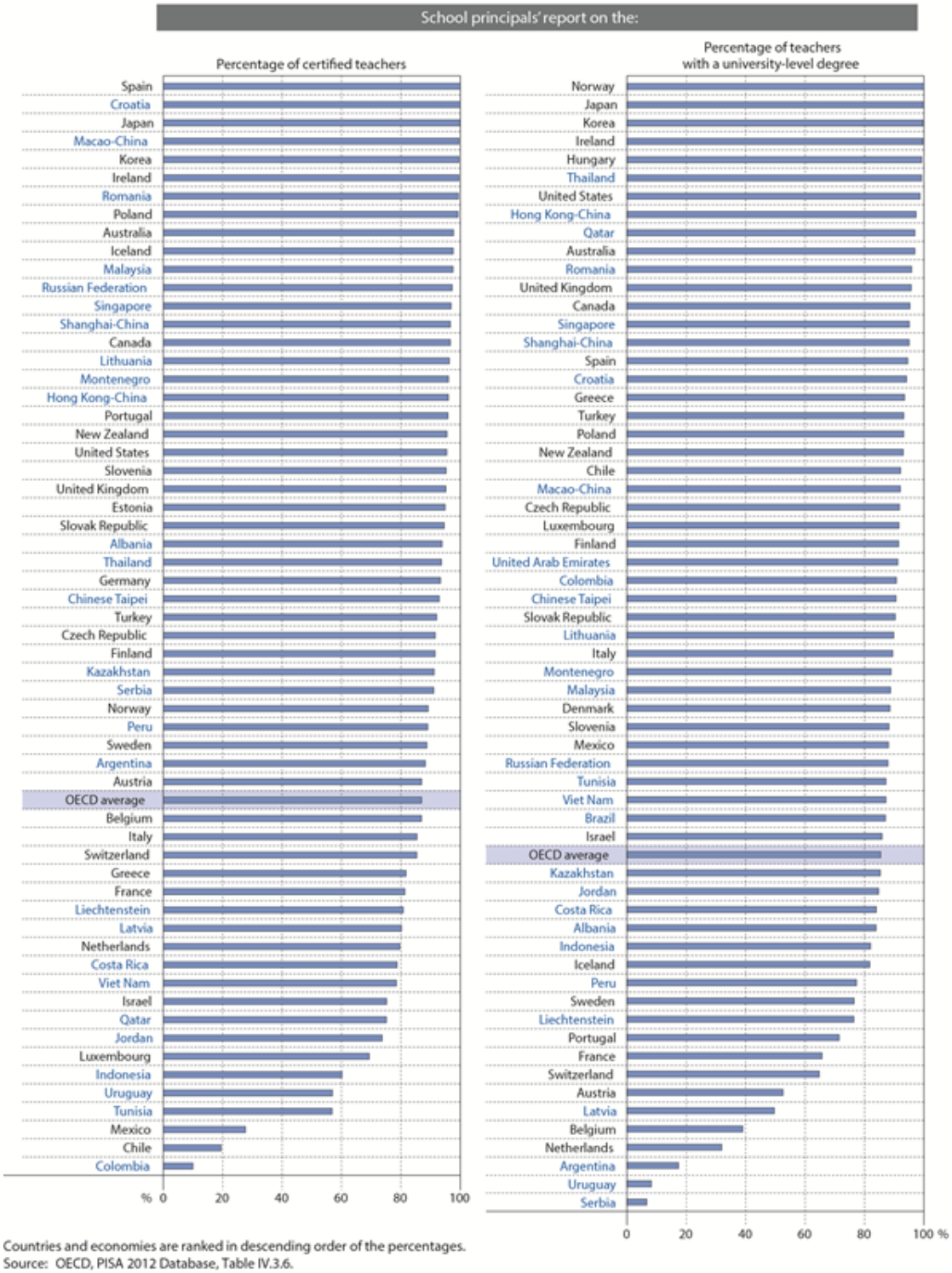
Teachers are an essential resource for learning. An education system cannot exceed the quality of its teachers (Barber and Mourshed, 2007). High-performing education systems (see Annex B) build their human resource systems by focusing on attracting, training and supporting good teachers rather than reducing attrition or firing weak teachers (Asia Society, 2011). The type and quality of training and the requirements to enter and progress through the profession also have significant effects on the quality of the teaching force.

Teacher qualifications in Latvia equal those of OECD countries as teachers at all levels are required to have a tertiary degree (equivalent to ISCED[3] level 5A or 5B) to obtain the right to teach. While some OECD countries like Estonia, Finland, Korea, Norway and Sweden apply selective criteria to enter pre-service training (for public primary and secondary education), others like Belgium, Germany, Luxembourg, the Netherlands and Poland have none (OECD, 2014b). Latvia belongs to the latter category.

The duration of pre-service training varies widely across OECD countries and by level of education. Pre-service teacher training in Germany is the longest among OECD countries: 6.5 years for primary teachers (including 1.5 years of pedagogical and practical training); 6.5 years for secondary teachers (including 1.5 to 2 years of pedagogical and practical training). For teachers at primary levels, pre-service training is the shortest (three years) in Austria, Belgium, Portugal and Switzerland. For teachers at lower secondary levels it is the shortest (three years) in Austria and Belgium. For teachers at the upper secondary level, the shortest pre-service training is four years for general programmes (in several countries), as well as three years for vocational training in Belgium (French Community) and Estonia (OECD, 2014b). Latvia comes out somewhere in the middle: for all three levels (primary, lower and upper secondary) teachers go through four years of pre-service training (OECD, 2013b).

Some education systems make additional requirements of those that have completed pre-service programmes as condition to enter the profession, in an effort to further test quality and motivation. Countries like France, Japan, Korea and Spain require a competitive examination to enter the profession at the primary and secondary levels. Others have none; this includes Latvia.

Figure 2.2. Teachers' profiles and qualifications



Countries and economies are ranked in descending order of the percentages.
Source: OECD, PISA 2012 Database, Table IV.3.6.

Some countries also require aspiring teachers to pass a teaching practicum prior to obtaining a credential or license to teach. Others require the successful completion of a probation period or formal

induction programme before becoming a fully qualified teacher. No such additional requirements are asked of the aspiring teachers in Latvia once they have completed in-service training programmes.

There is evidence that qualifications for teachers are not always met (see Figure 2.2). In 2012 across Latvia the average 15-year-old student was in a school where 81% of teachers were certified, compared to an OECD average that is slightly higher (87%). In 2013, 12.7% of lower secondary teachers reported that in the 12 months prior to the survey they had participated in a qualification programme (*e.g.* a degree programme) (OECD, 2014d). Latvia will have to make additional investments in the future if it hopes to upgrade lower secondary qualifications to the desired level.

Latvian teachers in general consider themselves well prepared for teaching. In TALIS 2013 very few lower secondary teachers reported feeling "not at all" or "somewhat" prepared to deliver the content (1.8%), in terms of pedagogy (3.1%) and practice in the subjects taught (4.8%). Here Latvian lower secondary teachers are much more positive about their perceived preparedness than their peers in countries like Finland, Japan and Korea. In Finland, for example, 36% of lower secondary teachers felt "not at all" or "somewhat" prepared to deliver the pedagogy and practice in the subjects taught (34%) (OECD, 2014d).

Research evidence shows that making further improvements in teaching and learning – *e.g.* towards the government aims to reduce the proportion of low achievers and increase the proportions of top performers by 2020 – will require additional investments in continuous professional development. Considering the long service of many Latvian teachers, many of whom completed initial teacher training more than twenty years ago, this is particularly relevant.

PISA 2012 and TALIS 2013 lend valuable insight into the investment made in continuous professional development compared to other countries. PISA 2012 shows that across OECD countries, the average 15-year-old student attends a school whose principal reported that 39.3% of their mathematics teachers had attended a programme of professional development in mathematics teaching over the previous three months. For Latvia this percentage was slightly lower (37.4%). It must be noted, however, that in socio-economically disadvantaged schools it was considerably lower (24%) compared to 43.5% of teachers in socio-economically average schools and 33.1% of teachers working in socio-economically advantaged schools (OECD, 2013b).

TALIS 2013 shows that close to all lower secondary teachers in Latvia (96.1%) undertook some professional development activities[4] in the previous 12 months prior to the survey, which was higher than the average across TALIS 2013 countries (88.1%). Out of these teachers in Latvia almost a quarter (24.7%) reported that they had to pay for some of the professional development activities undertaken whereas 4.3% reported they paid for all training. Personal costs may prevent some teachers, particularly those living in more disadvantaged areas of the country, from participating in continuous professional development (OECD, 2014d), especially when considering low teacher salaries in Latvia.

Teacher working conditions

TALIS showed that in 2013 the large majority of lower secondary teachers in Latvia (93.1%) were permanently employed. This proportion was considerably higher than that in many other countries participating in the survey. In Estonia, for example, the percentage stood at 84.5%, while in Finland it was at 76.9% and in the Netherlands at 84%. A further 4.1% of lower secondary teachers in Latvia were employed on a fixed-term contract for more than one year and 2.8% were on a fixed-term contract of less than one year (OECD, 2014d).

TALIS 2013 further shows that lower secondary teachers on average had 22 years working experience as a teacher, the highest figure among participating countries (OECD, 2014d). Teachers responded on average that they had gained 16 years of working experience at their current school, again the highest among TALIS countries, which suggests there is relatively little teacher mobility at the lower secondary level.

In 2013 the majority of Latvian lower secondary teachers (82.4%) were also employed on a full-time basis, which was a proportion similar to average of the other countries survey. It must be noted, however, that this average hides considerable variations among countries. Where for example less than half the lower secondary teachers (43%) in the Netherlands were employed full time, close to all teachers were employed on a full-time basis in Finland, Japan and Korea (94.2%, 96.2% and 99.3%, respectively).

Among the part-time teachers surveyed through TALIS, 72.2% reported there was no possibility of full-time work, a proportion considerably higher than the average (47.8%) (OECD, 2014d).

Teaching hours and intended instruction time offer insights into the demands placed on teachers, and may influence the attractiveness of the profession. Countries differ in the number of hours of total compulsory instruction time in primary and secondary education (OECD, 2014b). On OECD average, this increased with student age in 2014, from 773 hours at age 6 (primary education) to over 900 hours in upper secondary education. Fifteen-year-old students were supposed to, on average, receive 917 hours of instruction per year in a typical programme. Figures were higher than average in Chile, France, Israel and the Netherlands; they were lower in Estonia, Finland, Norway or Poland. Some countries showed large differences between younger and older students. While there were comparably few instruction hours at lower education levels in Korea (*e.g.* 560 hours at age 6), fifteen year-olds had 963 hours of instruction time. In Latvia, compulsory instruction time was below the OECD average. Teaching started with 484 hours at age 7 and reached 840 hours for fifteen year-olds. For students aged 7 to 8, total compulsory instruction time is lower than that of all OECD countries with available data. For older students it is among the shortest observed (OECD, 2014b). For primary and lower secondary education together, the total number of 5 933 hours remained far below the OECD average of 7 475 hours.

Class size affects learning in various ways, *e.g.* with regard to a teacher's attention to the individual student and lesson disruptions. There is weak evidence on the effects of class size on student performance. Classes in advantaged schools tend to be four students larger than those in disadvantaged schools on average across OECD countries (OECD, 2013b). However, the issue may

play a role for parents considering suitable schools for their children, and may thus influence enrolment. TALIS 2013 data also supports the conclusion that class sizes do matter when it comes to the implementation of teaching practices (such as working in small groups or using ICT[5]). In five countries (the Czech Republic, France, Israel, Korea and Poland), teachers working in classes with more students tend to be slightly less likely to report frequent use of small group work, while in five countries (Denmark, Estonia, Israel, Latvia and Sweden), teachers working with larger classes are slightly more likely to report the frequent use of ICT in their classroom. In the end, however, it is not the size, but the composition of students in the class that has the most influence on teacher satisfaction and self-efficacy (OECD, 2014d).

In 2012, Latvia had very small classes – 16 in primary and 15 in lower secondary – compared to the OECD averages of 21 and 24 (OECD, 2014b). Latvian primary classes were on par with Luxembourg for smallest class size, and Latvian lower secondary classes were the smallest when compared to OECD and partner countries. However, differences exist between urban and rural schools (see Annex A) and also across OECD countries, wide differences exist when it comes to class size. In Estonia, classes were rather small, with averages of 17 students at primary and 16 at lower secondary level. South Korea, on the other hand, accommodated 25 students in primary and 33 in lower secondary classes, more than double the size of Estonian ones.

In Latvia, small classes are also associated with high student-teacher ratios. With ratios of 25 in primary, 22 in lower secondary and 23 in upper secondary schools, Latvia's 2012 figures were above the OECD averages (OECD, 2014b). In most OECD countries, the student-teacher ratio decreases between primary and lower secondary school, despite an increase in class size. On average across OECD countries, there was one teaching staff member per 15 students in primary, 14 students in lower secondary and 14 students in upper secondary classes in 2012. These averages, however, hide considerable variations between countries. For instance, ratios in Wales (21 in primary and 16 in secondary classes) (Welsh Government, 2014) and Korea (18, 18 and 15 for primary, lower and upper secondary classes respectively) were high, contrasted with countries like Sweden (12, 11 and 13) or Poland (11, 10 and 11).

Class size and student-teacher ratios are key variables that policy makers use to control spending on education. Latvia has a network of small rural secondary schools, so very small classes could become an issue not of educational quality (compare Ares Abalde, forthcoming), but concerning the financing of education across the country.

Teacher profiles – age and gender structure

With large proportions of teachers in several OECD countries set to reach retirement age in the next decade, governments will be under pressure to recruit and train new teachers. On average across OECD countries about one in ten teachers at primary and secondary levels was under 30 years of age in 2012, while 30% in primary, 34% in lower secondary and 38% in upper secondary education approached retirement and were 50 years or older (OECD, 2014b).

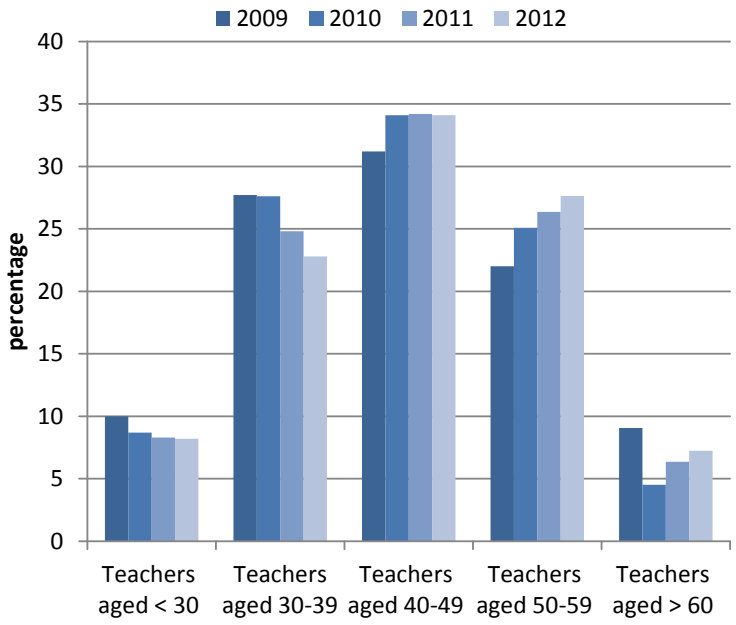
However, these proportions vary considerably. In New Zealand, 42% of lower secondary teachers were 50 years of age or older in 2012, and more than one in ten teachers will retire within the next few

years as 14% were 60 years or older. This proportion is even higher in Sweden, where 44% of teachers in primary, 33% in lower secondary and 44% in upper secondary education were 50 years of age or above in 2012.

In contrast, primary education in Korea, Poland and the Netherlands has a relatively young teaching force. The share of primary teachers under 30 years of age amounted to 22% in Korea and 19% in the Netherlands in 2012. At the same time, Korea and Poland also had a very low share of older teachers (aged 50 and 60 or above) at primary and secondary levels.

Latvia has very low proportions of young teachers. Only 8.2% in primary education and 6.5% in secondary education were less than 30 years old in 2012. More than one-third of primary teachers (34.9%) and over 44% of secondary teachers were 50 years or older (Eurostat, 2014). Figure 2.3 shows the decreasing proportions of primary teachers below the age of 39 and the growing proportion of teachers above the age of 50. Although Latvia has an aging teacher workforce, the pressure to recruit new teachers will be diminished as a result of the demographic decline and internal migration.

Figure 2.3. Primary teachers in Latvia, by age group, 2009-2012



Source: Eurostat (2014). "Teachers (ISCED 0-4) and academic staff (ISCED 5-6) by age and sex", Education and training database, http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database.

In OECD countries and Latvia teaching is a highly feminised profession. On average across OECD countries, two-thirds of all teachers (including pre-primary and tertiary staff) were women in 2012, but their share decreased at higher education levels and in better paid positions such as principals. In 2012, 82% of primary, 67% of lower secondary and 57% of upper secondary teachers (59% in general programmes) in OECD countries were female. Large shares of men taught in Luxembourg, Switzerland, Turkey and Korea (in the latter country, one in five primary teachers,

nearly one-third of lower secondary teachers and over half of upper secondary teachers were men). Similar shares of men in upper secondary education were observed in the Netherlands (also for lower secondary education) and Sweden. In Estonia, the Slovak Republic, Slovenia and Poland, a below-average share of men were members of the teaching profession, especially at primary level (8% in Estonia, 15% in Poland).

Latvia's share of male teachers is very low at both primary and secondary levels compared to OECD countries. In 2012, only 6.5% of teachers in primary education were men, as well as 16.2% in lower secondary and 19.2% in upper secondary education (Eurostat, 2014).

NOTES

1. All EU countries prior to the accession of the 10 candidate countries on 1 May 2004, plus the four eastern European member countries of the OECD: Czech Republic, Hungary, Poland and Slovak Republic.

2. In this report, national currencies were converted into USD using Purchasing Power Parities (PPPs) for private consumption.

3. International Standard Classification of Education.

4. Percentage of teachers who report having participated in at least one of the following professional development activities in the 12 months prior to the survey: "courses/workshops", "education conferences or seminars", "observation visits to other schools", "observation visits to business premises, public organisations or non-governmental organisations", "in-service training courses in business premises, public organisations or non-governmental organisations", "qualification programme (*e.g.* a degree programme)", "participation in a network of teachers formed specifically for the professional development of teachers", "individual or collaborative research", or "mentoring and/or peer observation and coaching".

5. Information and communication technologies.

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CHAPTER 3: DEVELOPING QUALITY TEACHING FOR ACHIEVING EXCELLENCE AND EQUITY IN EDUCATION

Today's most advanced education systems set ambitious goals for all students, focusing on both quality and equity (Schleicher, 2014). This helps shape a country's future. A thriving education system allows every student opportunity to develop as an individual and strengthens society's capacity for economic growth and social well-being. Education policy should foster educational quality for all students as efficiently as possible.

Although many factors outside the schools impact on student achievement, such as rates of poverty and disadvantage, the single best predictor of student learning and achievement within the school is the quality of the teacher (Hanushek and Rivkin, 2012; Hattie, 2008; OECD, 2005). Teachers have more direct impact on student learning than structures, budgets, curricula, inspection and accountability systems, or governance. Quality teaching is vital for improving student learning not just in quantifiable terms, but extending to difficult-to-measure aspects, such as conveying ideas, providing effective learning environments, fostering good teacher-student relationships, and cooperating with colleagues and parents.

Quality, well-motivated teachers are essential. The aim should therefore be to develop universal policies in order to recruit highly qualified graduates, offer continuing professional development, and ensure career advancement as well as attractive working conditions and salaries (Schleicher, 2011) (see Annex B).

Attracting the best graduates into the profession

Many of the high-performing countries share a commitment to professionalised teaching in ways that imply that teachers are accorded the same status as other highly-regarded professions (Schleicher, 2011). Box 3.1 presents the example of Finland. The existing research on teacher human capital indicates that in high-performing school systems such as in Canada, Finland and many of the more economically prosperous countries of East and South East Asia, teachers enjoy high status in society and have sufficient levels of pay. Academically able people are not deterred from entering the profession. They qualify for an all-graduate profession through a university-based programme that rigorously connects research with practical training (Schleicher, 2011; Tucker, 2011; Mourshed, Chijioke and Barber, 2010).

A well-designed remuneration system gives a clear signal of the status of the teaching profession within society. If salaries are sufficiently attractive, *i.e.* are competitive with other sought-after and relatively well-remunerated professions, this can help draw the best graduates into the profession. Many of the generation of teachers recruited in the baby-boom years have retired, or will be doing so over the short term. It is therefore crucial to make the profession sufficiently attractive to new entrants.

Since teacher pay represents the greater part of what OECD countries spend on education, it also needs to be kept within affordable boundaries. Policymakers will have to strike a difficult balance.

Several countries which improved their performance in PISA 2012 (like Brazil, Colombia, Estonia, Israel, Japan and Poland) have set policies to improve their teaching staff by raising the licensing requirements, and also by increasing salaries (OECD, 2013). Poland, for example, has increased the teacher salary by 50% in recent years (2007-2013).

Box 3.1. Being a teacher in Finland: a sought-after profession

One of the factors explaining Finnish success in education is teacher quality. In 2010, over 6 600 applicants competed for 660 available slots in primary school preparation programmes in the eight universities that educate teachers, making teaching one of the most sought-after professions.

As a result of this competitive climate, teaching is now a selective occupation in Finland, with highly skilled, well-trained teachers spread throughout the country. While teachers in Finland have always enjoyed respect, a combination of raising the bar for entry and granting greater autonomy over classrooms and working conditions has helped raise the status of the profession. Finnish teachers have earned the trust of parents and the wider society by their demonstrated capacity to use professional discretion and judgment in classrooms management and their response to helping virtually all students become successful learners.

Since the 1980s, the Finnish system of accountability was redeveloped from the bottom up. Candidate teachers are selected according to their capacity to convey their belief in the core mission of public education in Finland, which is deeply humanistic, civic and economic. The preparation they receive is designed to build a powerful sense of individual responsibility for the learning and well-being of all the students in their care. Over their careers, teachers combine the roles of researcher and practitioner. Finnish teachers are not only expected to become familiar with the knowledge base in education and human development, but are also required to write a research-based thesis as the final requirement for the Master's degree.

Sources: OECD (2014), *Improving Schools in Wales: An OECD Perspective*, OECD Publishing, Paris; Schleicher, A. (2011), *Building a High-Quality Teaching Profession: Lessons from around the World*, OECD Publishing, Paris.

Several high-performing countries, like Finland and Singapore, also took a first step to raise the quality of the teaching profession by inspiring capable people to give their talents to the teaching profession (Schleicher, 2014). Active recruitment campaigns can emphasise the fulfilling nature of teaching as a profession, and draw in candidates who might not otherwise have considered teaching.

A Master's degree has become an essential precondition to raising the status of the profession in some high-performing countries. This ensures that the workforce possesses the knowledge and skills to drive school improvement efforts forward. Finland, for example, has distinguished itself as a high performer, and all its teachers obtain a Master's degrees based on research and practice (Barber and Mourshed, 2007). Where teaching is seen as an attractive profession, its status can further be enhanced through selective recruitment that makes teachers feel that they are embarking on a career sought after by high-fliers (Schleicher, 2011).

Attracting quality teachers where they are most needed

Matching teacher demand to supply is a complex challenge. Teacher shortages and high turnover of staff are most acutely felt in schools that are already disadvantaged. Research into teacher preferences for schools finds that the least-favoured schools tend to be in rural, remote settings and schools with higher proportions of disadvantaged children and children from ethnic and minority-language backgrounds (OECD, 2005). Students in these schools tend to find themselves in classes with the least-experienced and least-qualified teachers (OECD, 2005, 2013).

Only 8% of Latvian lower secondary teachers work in schools whose principal reported that the school was made up of more than 10% of students with special needs; this proportion is markedly smaller than on average across TALIS countries (26%). However, experienced teachers – defined as having more than 5 years of teaching experience – are less likely to be working in this type of school.

TALIS 2013 suggests a lack of teacher qualification is less an issue for Latvian lower secondary schools with high proportions of students from socio-economically disadvantaged homes. Some 18% of lower secondary teachers in Latvia work in schools whose principal indicated that the school was made up of more than 30% of students with a socio-economically disadvantaged background, slightly less than on average across TALIS countries (20%). More experienced teachers are more likely to work in this type of school.

In Latvia as well as on average across TALIS countries, 1 in 5 lower secondary teachers works in schools whose principal reported that the school was made up of more than 10% of students with a native language different from the language of instruction. However, experienced teachers are less likely to be working in this type of school (OECD, 2014b).

Many OECD countries have implemented financial incentive packages. Salary increases and other types of financial additional payments are often cited as factors for ameliorating unattractive working conditions in disadvantaged schools. Teachers may perceive incentives as a reward for more challenging work or as offset to changes in the overall labour market. For example, many countries provide substantial salary allowances for teaching in difficult areas, transportation assistance to reach remote areas, or additional payments for specialised skills to help ensure all schools are staffed with teachers of similar quality (Schleicher, 2012).

In Korea, multiple incentives are offered to candidates working in high-need schools including additional salary, smaller class size, less instructional time, additional credit towards future promotion to administrative positions and the ability to choose their next school (OECD, 2012). In Brazil teacher salaries increased by 13% on average in the last decade (they increased by more than 60% in the poorer northeast region of the country). In Estonia, new teachers are offered an allowance of more than EUR 12 750 during the first three years of teaching to encourage them to work in small towns and rural areas. Almost three-quarters of OECD countries provide these kinds of allowances (OECD, 2014c). Incentives can be more cost-efficient and effective than across-the-board salary increases, if they are well designed.

The challenge of retaining quality teachers

Many education systems face a separate challenge in retention once quality teachers are hired. Career prospects, career diversity, and giving teachers responsibility as professionals are important elements beyond competitive compensation in the decisions of those considering the profession (Schleicher, 2011).

Retention requires effort be made that teachers feel they are challenged throughout their professional lives. This is particularly relevant for those in the middle stages of their careers (OECD, 2014d). Retaining effective teachers goes beyond pay, according the OECD *Teachers Matter* study (2005). Careers should benefit from both salary increases and diversification of career structures. Such diversity can help meet school needs and also offer teachers more opportunity and recognition.

Promotion and new responsibilities are generally limited to teachers who want to stay in the classroom. In some countries, such as Greece and Iceland, long service is rewarded by reduced teaching hours. In Portugal, teachers may receive a salary increase and a reduction in teaching time if they carry out special tasks or activities, such as educating student teachers and guidance counselling (OECD, 2014c (see Box 3.2.).

Box 3.2. Providing greater career diversity in Ireland, New Zealand and Quebec (Canada)

In 2015, **New Zealand** will introduce four new roles within schools with the aim of improving achievement for all students: executive principal, expert teacher, lead teacher and change principal. These roles will provide teachers with opportunities for advancement within the classroom and embed a system-wide means of sharing expertise across schools. Each role will attract significant additional remuneration for a fixed term (apart from Lead Teachers, which are permanent roles) and help recognise the most effective teachers and principals. The roles are to be underpinned by professional standards. In addition to these new roles, all schools will be given additional funding to provide classroom release time for teachers to work with the expert and lead teachers on professional practice.

- Executive principals are appointed to provide leadership across a community of schools. They will support and mentor the other principals in these schools with responsibilities linked to specific objectives for student achievement.
- Expert teachers will be capable of providing professional practice leadership. They will work with teachers inside classrooms across their community of schools to help improve practice and student achievement.
- Lead teachers will have a proven track record of accelerating achievement and act as a role model for teachers within their own schools and the other schools in their community of schools. Their classrooms will be open for other teachers, including beginning teachers, to observe and learn from their practice.
- Change principals will be employed to lift achievement in specific schools that are struggling. An additional allowance will be available to encourage highly effective principals to select schools based on the size of the challenge rather than the size of the school.

Source: New Zealand Ministry of Education (2014), *Investing in Educational Success*, www.minedu.govt.nz/~/media/MinEdu/Files/TheMinistry/EducationInitiatives/MOEInvestingInEducationalSuccess.pdf.

Box 3.2. Providing greater career diversity in Ireland, New Zealand and Quebec (Canada) (continued)

Ireland introduced four categories of promotion posts: principal, deputy principal, assistant principal and special duties teacher. Each has special management duties and receives both salary and time allowances. In addition to classroom teaching, assistant principals and special duties teachers have special responsibility for academic, administrative and pastoral matters, including timetabling arrangements, liaison with parents' associations, supervising the maintenance and availability of school equipment, and so on. They are selected by a panel that consists of a principal, chair of the management board, and an independent external assessor. Over the course of their careers, about 50% of teachers can expect to receive one of these positions.

In **Quebec**, experienced teachers can work as mentors for student teachers. Experienced teachers coach and guide the student teachers and undertake specific training. They receive either additional pay or a reduction in classroom teaching responsibilities. About 12 000 teachers participate in the mentor programme. Some of these experienced teachers also have an opportunity to become co-researchers with university staff and to participate in collaborative studies on subjects such as teaching, learning, classroom management and student outcomes. In addition, experienced teachers may be released from some of their normal duties to provide support for less-experienced colleagues.

Source: OECD (2005), Teachers Matter: Attracting, Developing and Retaining Effective Teachers, OECD Publishing, Paris.

Keeping teachers in schools can be costly, as governments may have to allow for higher salaries, part-time teaching, extended leave or job exchanges. These costs need to be set against benefits such as lower staff turnover, improved morale, and new skills and knowledge. Innovative approaches include opening the profession to individuals with relevant experience gained outside classic teacher career paths, broadening selection criteria, changing the role of seniority, and shifting the focus to personal attitudes such as commitment and sensitivity to students (Schleicher, 2011).

Professional development opportunities help teachers respond to new challenges and improve retention. The role of schools is changing in many countries along with expectations of teachers. Teachers must be capable of integrating students with migrant backgrounds or special learning needs (both special difficulties and talents). They also need to make more effective use of information and communication technologies, are increasingly required to perform planning within evaluation and accountability frameworks, and are asked to do more to involve parents in schools. No matter how good initial teacher education may be, it cannot be expected that teachers will be prepared for every challenge throughout a career (Schleicher, 2012, 2014).

Research shows that effective professional development needs to be ongoing, include training, practice and feedback, and provide adequate time and follow-up support. Successful programmes involve learning activities similar to those teachers will use with their students. Such programmes also encourage the development of teacher learning communities. It also shows that professional development needs to be linked to wider goals of school and system development, and in accordance with appraisal and feedback practices (OECD, 2005; Schleicher, 2011).As of 2013, countries used a variety of practices. Professional development for teachers is compulsory at every level in about three-quarters of OECD and partner countries with available data, while few countries *(e.g.* Korea, Poland,

Portugal and Spain) have made it mandatory for promotion or salary increase, and only Japan requires it for recertification (OECD, 2014a).

Well-structured and -resourced induction programmes are particularly important for new teachers to help them transition from training into to the profession. The availability of formal induction programmes varies greatly among countries. In some countries like England (UK), Estonia and Korea formal induction programmes are mandatory for all new teachers at a school, while in others like the Netherlands, Poland, Portugal and Spain such formal programmes are not offered or (as in *e.g.* Australia, Belgium and Norway) remain at the discretion of the schools (OECD, 2014a).

Resourcing for equity and quality in learning

In many OECD countries long-serving teachers have seen considerable changes in the student populations. Decades ago, classrooms were often relatively homogeneous in terms of student cultural backgrounds; many of today's schools are characterised by increasingly multicultural classrooms. Answering special needs and talents has also increased. Funding schemes should reflect these changing conditions.

Countries should aim for equitable and effective resource allocation mechanisms. Fair funding strategies should:

- Provide sufficient resources to improve the quality of early childhood education and care (ECEC) and promote access, in particular for disadvantaged families;

- Recognise instructional costs of disadvantaged students may be higher. Formula funding seems to be the most efficient and transparent method of funding schools incorporating needs criteria (Levačić, 2006; Fazekas, 2012). Student characteristics are taken into account in school funding formulas in countries like the Netherlands and Flanders (Belgium) (see Box 3.3). Other options include designing specific funding programmes at the system level, like those of Wales (UK) where schools can apply for a number of grants to better respond to the special education needs of their students (OECD, 2014d. Such programmes often represent an additional bureaucratic burden on schools;

- Balance decentralisation/local autonomy and accountability to ensure that resources reach disadvantaged schools and are well spent. Decentralising educational funding to local authorities can increase responsiveness to local needs. This may not be effective if either the funding is inadequate or local authorities lack the required capacity. Schools should keep autonomy in areas where school-level knowledge is more relevant, such as personnel management, while the central level should control resource levels and performance standards (OECD, 2012).

Box 3.3. Student numbers and characteristics as criteria for staff allocation and school funding formulas: the example of Belgium (Flemish Community)

While the performance of Flemish 15-year old students across PISA cycles has generally been above average, the results also reveal the strong impact of socio-economic background – parental education and occupation, educational resources at home and proxies for wealth – on test scores. Between-school variance is very high, which may be explained by the fact that some schools have a large student intake from disadvantaged backgrounds. Proficiency in Dutch, the language of instruction, is paramount to perform well; however, many students from migrant families do not speak Dutch at home.

In the last twelve years, policymakers have designed and implemented policies to mitigate the impact of socio-economic background on performance. Among these are identifying relevant indicators for an increased likelihood of poor student performance and school failure.

Allocating teachers

The Equal Educational Opportunities Policy (Gelijke Onderwijskansenbeleid, 2002) allocates additional teachers to disadvantaged secondary schools, measured by weighted student characteristics. Relevant indicators include:

- Educational attainment level of the mother (relevant if no secondary school diploma);
- Labour market situation of the family (relevant if welfare recipients);
- Living with travelling people such as Roma;
- Family situation (relevant if the child does not live with its parents);
- Home language (relevant if not the language of instruction);

A general support structure for schools was established to support the implementation of effective equal opportunity policies. Schools falling under the policy have to focus on five areas: *a)* prevention and remediation of developmental and learning disadvantages, *b)* Dutch language proficiency, *c)* intercultural education, *d)* school and career guidance, and *e)* student and parental involvement. The inspectorate monitors effective use of resources and successful implementation of equal opportunity policies.

Allocating additional financial resources to schools

In 2008, a formula for the allocation of financial resources to schools was put in place. It is still being used for secondary schools. Every student who meets one or more criteria relating to home language, mother's educational attainment, neighbourhood and school allowance based on family income generates extra financial resources for his school. Up to 15% of all financial resources to operate secondary schools are distributed based on these four indicators.

In 2012, at the pre-primary and primary levels, the Socio-Economic Status Policy replaced the Equal Education Opportunities Policy integrating the allocation of additional teachers and financial resources for operating expenses into the same legal framework. Criteria are largely the same as for the 2008 formula. Every pupil meeting one of these criteria helps generate additional human and financial resources for a school, with a larger coefficient for Flemish schools in the Brussels area (1.11 instead of 1). About 10% of salaries and 14.5% of operating expenses are allocated to schools based on socio-economic indicators. While schools enjoy large autonomy in allocating these additional resources, they must design a policy plan with instructions on implementing an equal opportunity and care policy.

Research shows clear benefits for investing in educational equity. There is no inherent contradiction between the pursuit of educational equity and efficiency which are in fact complementary. School failure has large costs not only to those involved, but to society, as the welfare costs of social exclusion are high. Completion of successful secondary education gives individuals better employment and healthier lifestyle prospects, resulting in greater contributions to public budgets and investment. Better educated people contribute to stronger democratic societies and more sustainable economies. They are less dependent on public aid and less vulnerable to economic shocks.

Reasonably-priced, effective measures to address failure benefit both efficiency and equity. Some analysis suggest that equitable distribution of skills across populations has a strong impact on overall economic performance (OECD, 2012; Field, Kuczera and Pont, 2007). According to one estimate, if all 15-year-olds in the OECD area attained at least Level 2 in the PISA mathematics assessment, they would contribute over USD 200 trillion in additional economic output over their working lives (OECD, 2010). While such estimates are never wholly certain, they do suggest the benefits of improving cognitive skills dwarf any conceivable cost of improvement (Schleicher, 2014).

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CHAPTER 4: THE LATVIAN TEACHER REMUNERATION MODEL: STRENGTHS AND WEAKNESSES

Designing school funding formulae and teacher remuneration systems are much more than just technical operations. Both are education policy instruments, express underlying visions about the role of teachers and schools, societal expectations, and are designed with differing emphasis on efficiency and equity (Levačić, 2006). Important policy questions to consider include: whether the system would support the country's education objectives of quality and equity; whether it would provide sufficient incentive to draw quality graduates to the teaching profession; the extent to which it would attract candidates with relevant experience outside the education sector to teaching; and whether it promotes excellence and prevents attrition.

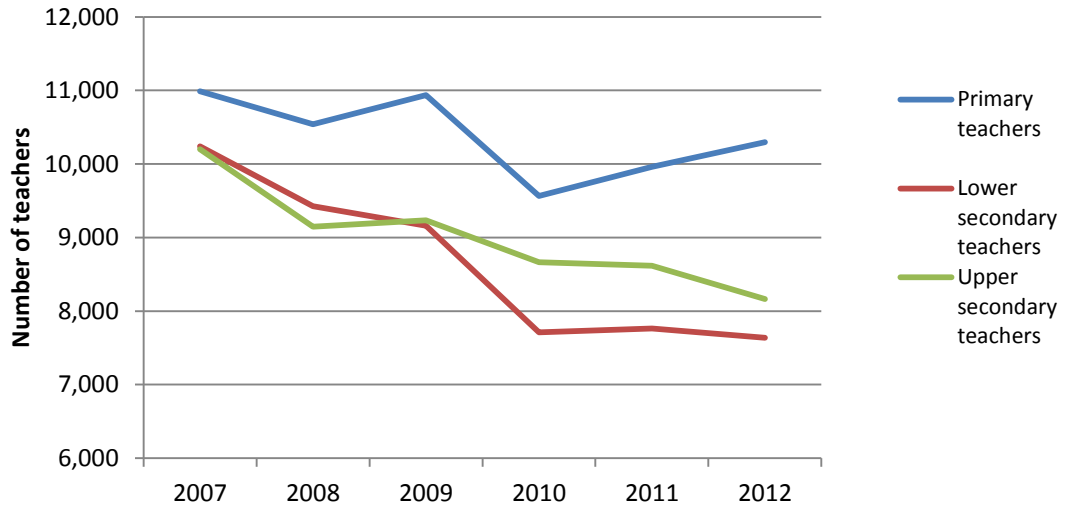
This chapter reviews how the Latvian teacher remuneration system holds up to these and other questions. The chapter also evaluates the strengths and weaknesses of the current funding system.

The current system

The funding formula: per-student funding and the concept of teacher workload

Before the economic crisis, public expenditure on education had grown rapidly. Latvia's schools were overstaffed. After the economic crisis hit Latvia the contraction in 2009 created a fiscal imperative to reduce expenditure in the education sector (World Bank, 2010). Education expenditure dropped from 5.71% of GDP in 2008 to 4.96% of GDP in 2010 (Eurostat, 2014). Teacher salaries suffered in the education budget in 2009 – worsening a situation where teachers were substantially underpaid even before the reductions (World Bank, 2010; Hazans, 2010). Not surprisingly, the number of teachers also dropped considerably in 2010, although the number of primary teachers increased again in the years following (see Figure 4.1).

Figure 4.1. Number of primary, lower and upper secondary teachers in Latvia



Source: Eurostat (2014), "Teachers (ISCED 0-4) and academic staff (ISCED 5-6) by employment status (full-time, part-time, full-time equivalence) and sex", Eurostat database, Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=educ_pers1t&lang=en.

The government moved decisively to implement key recommendations made by the World Bank in 2007. These focused on fundamental reforms to contain budget expenditures and improve the efficiency of education provision. Central norms on class size were relaxed and school directors and local education authorities were allowed more flexibility in resource management. In addition to creating incentives for improved efficiency (and improved quality) the basis of budget financing of primary and general secondary education was to be revised to finance outputs (students) rather than inputs (teachers and schools) (World Bank, 2010).

These measures formed the basis of the Ministry of Education and Science's (MoES) reform plan for per-student financing of primary and general secondary schools, also known as "money follows the student", developed in 2008 and early 2009. The plan was put into effect at the start of the 2009/10 school year. The official vision of the MoES was that changes in the funding structure of general education would lead to an increase in the education system's economic efficiency and to higher student achievement (Cabinet of Ministers, 2009). The new per-student financing system aimed to be transparent while serving as a tool for efficient budgeting.

Latvian schools gained more autonomy over funding of staff. The new system also provided an incentive to increase class size, rewarding an increased student-teacher ratio. Implementation of the per-student financing system was to be managed by the 118 new units of local government – that is, the municipalities established in July 2009 (World Bank, 2010). They are responsible for allocating funds for teacher salaries to schools (Grīviņš, 2012).

The per-student funding system has a formula with two components: *1)* a calculation defining teacher workload that *2)* feeds into the calculation of the total budget for salaries (see Table 4.1). The formula is based on detailed conversion rules to take into account the number of students at each

grade, regulations for class size and location of the schools. The system it replaced was based on number of classes and teachers.

Table 4.1. The Latvian school funding formula

Student numbers	Student coefficients	Programme coefficient	Density coefficient	Student-teacher ratio	
Number of students in a school X	- 0.75 (grades 1-4) -1.00 (grades 1-4 schools with smaller than 100 students) -1.00 (grades 4-9) -1.25 (grades 10-12)	-1.2 (pedagogic and social correction education) -1.8 (special programmes in special schools) -0.81 (long-term patients) -1.1 (gymnasia) -0.8 (evening and distance education) -1.84 (special integrated schools) -1.2 (specialised programmes) -1.3 (specialised programmes - music)	X 1.3 = the number of students by applying the students' coefficients	X ratio in small villages: 8.12 or X ratio in republican cities: 10.35	= number of workloads
Number of workloads	X minimum salary	X 1.2359 (social security costs)	X 1.15 (administrative tasks)	X 1.40 (additional duties)	= total budget for teacher salaries

The basic calculation of workload is widely known as "money follows student". The number of students in a school forms the starting point for the calculation of the number of teacher workloads. The formula accounts for the education level with a student coefficient that differs according to whether the student is in grades 1 to 4, grades 5 to 9, or grades 10 to 12.

The formula is not entirely driven by numbers. It has additional indices intended to promote equity in the face of differences in perceived need. It accounts for the differences in cost of programmes and favours small schools with fewer than 100 students which have a higher per-student coefficient. There is an ideal student-teacher ratio, which is different for schools in small municipalities and those in the nine republican cities. Taking into account all these factors, the calculation produces the number of workloads to which a school is entitled. A full-time workload implies 21 hours of teaching.

The second step involves converting the number of workloads into a budgetary amount. The minimum teacher salary per workload (EUR 420 in 2014) is determined by the government through annual cabinet regulations. This amount is multiplied by a number of coefficients. A coefficient of 1.2359 covers social security costs, and a further factor of 1.15 is applied for administration. This is intended to promote more efficient planning by including non-teaching staff salaries as a percentage in the teacher salary grant. Every school can use up to 15% of the total amount for hiring non-teaching staff such as heads, deputy heads and special educational needs teachers who perform administrative tasks.

A factor of 1.4 is added to the budget calculation to account for additional duties such as preparing lessons, correcting homework, grading tests and participating in meetings. These additional duties are numerous. In other OECD countries many of them are considered to be among the core teacher duties. School leaders can decide how to provide for additional duties. For example, one teacher might receive several hours of extra work per week for additional duties while another might be allocated none. Thus teachers doing the same work in different municipalities might receive different salaries.

Annex A provides data on teacher workloads in different school types and locations, as well as on teacher salaries by workload, school type, language, school size and teacher assessment level. It shows that in cities (excluding republican cities) and in rural schools, the variation of wage rates per load is much more pronounced than in the republican cities. The largest variation in wage rates within different job categories is observed for deputy school heads, followed by school heads. There also exists a strong positive correlation between school size and state-funded monthly earnings of full-time teachers in general education schools, the main reason for the earnings differences between urban and rural teachers.

A new element of performance-based pay

Latvia has developed a closer relationship between teacher performance and compensation through a performance-based pay programme. This permits reward based on something other than credentials or years of experience, both of which have been shown to be poor indicators of teacher effectiveness. About half of OECD countries reward teacher performance differently. Rewards might be based on the performances of the individual teacher, a group or team of teachers, or the whole school. They may be supplementary and incidental in nature, as in the Netherlands and Poland. In the Czech Republic, England (UK), Mexico, the Netherlands, Sweden and Turkey outstanding teaching performance is used to help determine a teacher's position on the base salary scale (OECD, 2009; Schleicher, 2011).

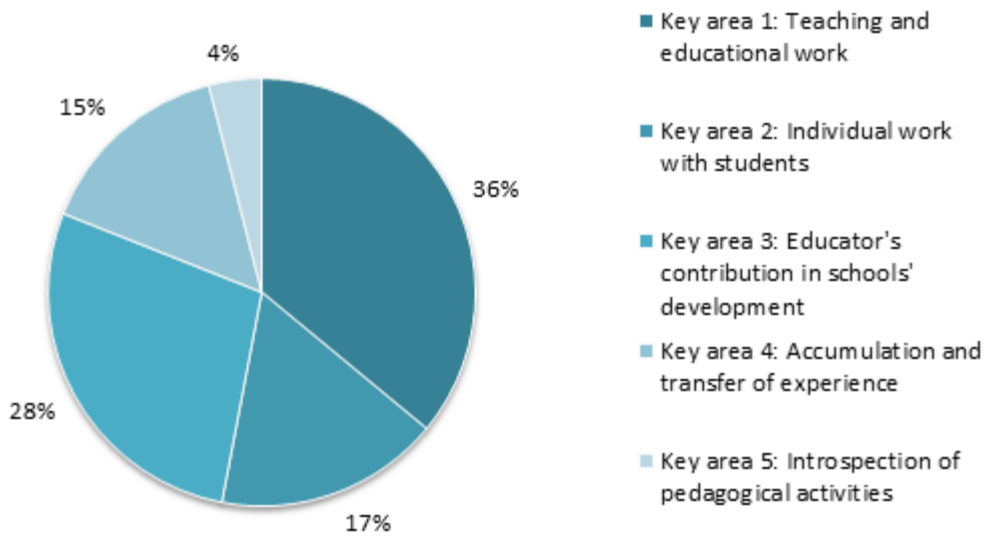
Those in favour of performance-based pay say that it is fairer to reward teachers who perform well. They note that performance-based pay motivates teachers and that a transparent connection between school spending and outcomes builds public support. Those who oppose performance-based pay argue that fair and accurate evaluations are difficult to achieve. Since performance cannot be determined objectively, they argue, co-operation among teachers is reduced or teaching becomes too narrowly focused on the evaluation criteria. Empirical analyses of the effects of performance-related pay have been inconclusive (OECD, 2012b).

With EU funding, Latvia has developed the Assessment System of Teacher Performance, a performance-based pay system currently being implemented. A teacher is assessed by a commission in five key areas weighted against one another in terms of relative importance (Figure 4.2):

- Teaching and educational work such as planning and management and evaluation of the results of student performance, 36%;
- Individual work with students, *i.e.* the teacher's contribution to the development of individual student skills and opportunities to provide for the needs of the learner, 17%;

- The educator's contribution to the development of the educational institution, 28%;
- Accumulation and transfer of experience and knowledge, 15%;
- Introspection of pedagogical activities or analysis of the results of pedagogical activities and self-reflection on the performance, 4%.

Figure 4.2. Assessment System of Teacher Performance in Latvia

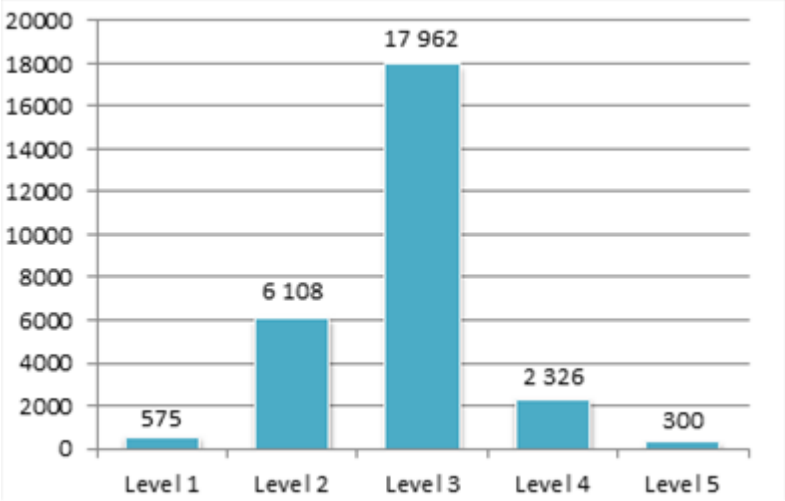


Source: Cabinet of Ministers of the Republic of Latvia, Cabinet regulation "Assessment Procedure of the Quality of Teachers' Professional Performance", www.mk.gov.lv/lv/mk/tap/?pid=40316907.

Teachers receive a grade ranging from 1 to 5, 5 being highest. Grades 1 to 3 are assessed at the school level. For grades 1 to 3, a decision is taken by the principal based on the commission's proposal according to defined criteria within the five key areas listed above. If a teacher performs very well and is judged suitable for grade 4, the case is presented to municipal officials who evaluate the assessment and the salary premium that goes with it. If a teacher performs exceptionally well (grade 5) the case for the award of this grade is brought to the MoES.

Outstanding teachers who earn grade 5 can receive an additional 25% of their minimum salary. Teachers at level 3 are awarded an extra 8%, those at level 4 an additional 20%. The actual amounts are EUR 31.87, EUR 79.68 and EUR 99.60 in proportion to the set workload for teachers who were evaluated at levels 3, 4 and 5 respectively between 2009 and 31 August 2014. The certification is valid for five years. To date, 27 271 teachers have been evaluated since the start the Assessment System of Teacher Performance in 2009 (which continued until 2012). About two-thirds of teachers have been evaluated by headmasters as performing at level 3. A small minority has been rated at grade level 5 (see Figure 4.3).

Figure 4.3. Number of teachers assessed and their grade-levels of performance under the new Assessment System of Teacher Performance, since 2009



Source: Latvian State Education System.

It is too soon to make a reliable assessment of the impact of the new performance-based pay system. In any case, our scope was limited to the impact on teacher remuneration. In principle it is appropriate to reward good performance, but ensuring the system effectively discriminates among outstanding, good and weak teachers will be a challenge. Research shows that pay levels are only one aspect of the work environment. Countries that have succeeded in making teaching an attractive profession have often done so not just through pay, but by raising the status of teaching, offering real career prospects, and giving teachers responsibility as professionals and leaders of reform (OECD, 2012b).

An assessment of the current system

Some assessment of the resource allocation system's strengths and weaknesses must be made to prepare recommendations for the future. The immediate economic context and the longer-term demographic context have to be taken into account. Next we will assess aspects of the system in context.

The "money follows the student" approach

Student numbers are the main drivers for calculating the amount of resources to be allocated to teaching. The system was introduced to improve the effectiveness of education in Latvia – that is to say, it seeks better outcomes while reducing costs. Doing so will inevitably lead to tension as schools and municipalities feel the pinch.

One strength of the current system is that it is a relatively transparent budgeting tool; the system draws attention to the costs of educating a student and the attendant differences among schools. Traditional budgeting methods do not calculate the cost per student. The review team interviewed personnel in the ministries of finance and education, as well as in the municipalities, and heard a

generally-shared view that the current funding formula is more transparent and fairer than the previous one. A transparent funding formula allowing local authorities a measure of initiative contributes to a strong partnership among the ministry, the municipalities and the schools. All education providers know the formula and have a fairly good idea how much staffing funding will be allocated by the MoES.

Taking account of student needs

The Latvian funding formula is not sufficiently sensitive to special student needs. "Money follows student" includes coefficients for students in special educational institutions, special educational classes in mainstream schools and social correction educational programmes. However, it fails to adequately integrate the education and other needs of individual students. Research evidence shows achieving equity in education – low and top performers are a Latvian policy priority (see Chapter 2) – requires funding strategies responsive to student and school needs. Students and schools have different socio-economic profiles and varying needs, and funding schemes should reflect these (OECD, 2012a).

Many countries include needs-based variables in their calculations to account for the additional resource needs of teaching students with learning disabilities or who come from disadvantaged socio-economic backgrounds (Fazekas, 2012). Some systems have introduced needs-based variables reflecting the family background of disadvantaged students. The Flemish community of Belgium is one example (see Box 3.3).

In many countries, learning disabilities are also assessed by institutions separate from schools. These institutions provide accessible and reliable data on learning disabilities which are widely used as indicators in funding formula (Levačić, 2006). Disadvantaged student background can be measured in several different ways. Countries usually use readily-available measures such as free school meal eligibility in Wales (United Kingdom) (OECD, 2014). Test results are also used frequently, particularly for determining proficiency in the language of instruction and low achievement in major subjects (West, 2009; Marsh, 2002). Both of these measurements have strengths and weaknesses which might benefit some schools and students while penalising others (Fazekas, 2012). The selection of suitable needs-based variables is far from a simple matter deserving careful consideration.

Funding and school choice

Transparency itself can lead to political problems when combined with the authority given to municipalities to distribute funding at local level and the freedom parents have to choose schools. The Education Law stipulates in section 17(2) that a child has "the opportunity to attend an educational institution of his or her free choice." The Latvian education system has no catchment areas or *cartes scolaires* as in other countries. Freedom of choice is made real, notably in secondary education, and especially in the cities, by the availability of different types of secondary education. Gymnasia have a special status as they also serve as regional pedagogical centres and as centres for in-service training of educators. Per-capita funding is a powerful tool for implementing school choice. Education providers compete on a level-playing field when they are funded on the basis of student numbers.

Funding and local autonomy

Reform in Latvia came at a time of acute economic crisis when efficiency in public expenditure had become an overriding imperative. Once per-student cost differences between schools become evident the question becomes whether these differences are justified (Levačić, 2006). Such transparency is positive. It promotes scrutiny of the school network and facilitates the policy dialogue about closings or amalgamation of costly small schools in rural areas. In Latvia, the speed and severity of the crisis coinciding with a reform of public administration meant that those responsible for implementing the change at local level were often inexperienced.

The education system in Latvia provides municipalities and schools with considerable autonomy. A municipality can decide how to distribute resources for teacher salaries among schools. Municipalities may also supplement these resources with other funds. They have the competence and a wide selection of tools to shape the school network within the municipality, including the authority to close ineffective schools (Grīviņš, 2012). Municipal policymakers and local boards of education can develop policies to meet local needs and expectations, and reallocate funds across schools to achieve these objectives. Municipal planners are in a position of compromise between national policies and local objectives. Their capacity to supplement the limited central grant with additional resources is also an important consideration.

The level of teacher pay

During the first year of implementation of the education financing reform, steps were taken to increase parity between teacher pay and the pay of similar positions elsewhere in the public sector (World Bank, 2010). Evidence suggests these steps have been insufficient. International comparisons show that Latvian teachers, both before and after the reform, are substantially underpaid compared to their foreign colleagues in terms of annual earnings as a share of GDP per capita, as well as in terms of purchasing power of earnings per contact hour. Additionally, analysis based on earnings functions and administrative data suggests that teachers are underpaid relative to other public sector professionals in Latvia, especially in the capital city (Hazans, 2010).

The low minimum statutory salary, coupled with a potential mark-up of 40% for additional duties, prevents the teaching profession from becoming an attractive career choice. Teacher salaries are not competitive with those in the private sector, and they are not even competitive with salaries in the Latvian public sector (Table 4.2). Low salaries imply a low social status. Together with poor employment conditions, these factors have further contributed to teacher shortages in the sciences, mathematics, ICT, and to a gender-biased and ageing teaching force. Few male graduates are attracted by the profession.

Table 4.2. Average monthly gross wages and salaries by activity in Latvia, in LVL, 2012-2013

	Q2 2012	Q1 2013	Q2 2013	Change, %	
				Q2 2013 over Q2 2012	Q2 2013 over Q1 2013
Total	**481**	**485**	**503**	**4.7**	**3.8**
Private sector	459	471	483	5.3	2.6
Public sector	520	510	540	3.9	6
General government sector	466	469	491	5.2	4.5
Education	406	410	418	3.1	2.1

Source: Central Statistical Bureau of Latvia (2013), http://www.csb.gov.lv/en/notikumi/average-wages-and-salaries-are-increasing-steadily-36545.html.

In all, the low salary and very flat structure of the pay scale for Latvian teachers (with an only minor increase from the start and to the end of the pay scale) stands at odds with the government's objectives laid down in the Education Development Guidelines 2014-2020, namely "to raise the motivation and professional capacity of teachers and academic personnel". Attracting the best graduates into the profession and retaining a quality and motivated work force will likely remain a challenge in the years to come. The quality of teaching and learning in Latvia's schools may be undermined if no action is taken.

Another built-in weakness to the funding system is the teacher minimum salary formula. There are three grades of seniority – less than 5 years, 5 to 10 years and more than 10 years. Seniority is not integrated in the formula; at the same time, Latvia has one of the most experienced cohorts of teachers among EU and OECD countries (see Chapter 2 and Annex A). It is up to the municipalities to reward seniority from their budgets. The situation does not contribute to motivating working conditions and can hardly be considered good budgeting practice.

Performance-related pay

Though it is too soon to judge, one may argue that the new Assessment System of Teacher Performance implemented by the MoES is a step forward. It recognises the performance of effective teachers, which may have a positive impact on the motivation of the teachers (a key objective of the MoES). Research evidence shows education systems benefit from clear and concise profiles of what teachers are expected to know and be able to do in specific subject areas (Schleicher, 2012). The Assessment System of Teacher Performance does clearly communicate the ministry's expectations of key competences necessary for development of an effective teacher. At the policy level, the assessment system may also serve as an important point of reference for policy discussions concerning recruitment, training and retaining of Latvian teachers in the context of larger ambitions for reform. Much will depend on the continued and effective implementation of the performance-based system as well as other improvements to the working environment including the status of teachers and their career prospects.

To implement the new system it is necessary to determine the quality premium included in the teacher's salary since teaching quality is an essential condition for the calculation. The system may help retain effective teachers and serve as a motivating force as intended, but will only work if the funds are also actually allocated to municipalities and schools. Funding to pay for those teachers who perform at quality grades 3, 4 and 5 is not currently integrated in the formula, nor is there a mechanism to allocate these funds to municipalities or schools. In this case, an additional payment to the teacher's salary should be calculated according to workload.

Providing more certainty to teachers

A teacher's workload is calculated on the actual enrolment at the start of the school year. Often teachers are uncertain of the actual conditions of their employment until October. This uncertainty is far from desirable for school leaders, too. Schools need to be informed of their budgets before the start of the financial year in order to plan next year's budget and teaching plan (Levačić, 2006). Either of a count of students from the previous year or a forecast should be used. In Chapter 5 we will elaborate on this issue and propose a solution.

The role of school leaders

Beyond paying the minimum salary per workload, school leaders have considerable autonomy over spending municipal funds (which may differ from the estimated funds based on the funding formula). They have flexibility in the organisation of teaching and learning. Furthermore, they decide how many teachers to employ and the number and kinds of non-teaching staff posts to have; and they can allocate that part of the funding related to additional duties and administrative tasks as they see fit.

School funding formulas and self-management of schools are also often aspects of an education quasi-market (Levačić, 2006; Fazekas, 2012). In Latvia, the allocation of additional duties is the subject of negotiations between the school leader and the teacher. Here, the former has an advantage, partly due to the low teacher wages. It could very well be that two teachers with the same workload, including a similar package of additional duties, end up having quite different wages. Unsurprisingly, this quasi-market situation has led to certain dissatisfaction among Latvian teachers. This is important, especially considering the government's key objective of increasing teacher motivation (see also Annex A).

An understanding of what it means to be a teacher

Understanding of what a teacher's duties entail is a fundamental issue. The understanding that a fulltime workload only consists of 21 teaching hours and that teachers can be allocated up to 40% additional duties by their school leader has contributed to a lack of transparency and a growing feeling of discontent among some teachers.

First, this approach ignores that teachers need time to prepare lessons and grade tests if they are to be able provide students with the quality learning experience they deserve. These are not optional extras to be funded when possible but functions which most OECD countries recognise are a regular

part of a teacher's duties. In Latvia, however, the school leader might not consider preparation and marking as part of the weekly duty.

The Assessment System of Teacher Performance proposes a broader and more holistic view of the teaching profession than is reflected in the current teacher remuneration system. Under the new assessment system, a teacher's contribution to the development of the institution is considered an obligation. This obviously goes beyond the scope of regular teaching duties and would be considered additional duty. Some teachers, however, may not have an opportunity to show their competence in this key area for the simple reason that the related duties are not part of those they were allocated. This obviously places them at a disadvantage when being assessed under the new performance-based pay system.

A closer look at the school network

Although the new funding system has succeeded in reducing state expenditure, and reduced the size of the school network (from the 858 institutions in 2010/11 to 832 in 2012/13), it still struggles to improve education efficiency. The evidence shows some municipalities are reallocating scarce resources to very small schools that are no longer viable. This seems peculiar to the large network of small, lower secondary schools and has more than once been the subject of political debate in Latvia. The data suggests these schools are less exposed to closure; in the two years following the school year 2010/11, their number decreased only by six schools, to 361 in 2012/13 (Central Statistical Bureau of Latvia, 2014).

Municipalities support their own local schools and are unwilling to close small secondary schools. Closure decisions must be made over parent complaints, complicating network planning. In a sense the state has given municipalities the tools to act against them (Grīviņš, 2012).

Municipalities will always face trade-offs between keeping or closing small schools. Latvia could benefit from the experiences of other countries that have faced similar situations (Box 4.1). Approaches to deal with small rural schools go beyond closure, including different forms of school collaboration, consolidation, and the enhanced use of ICT for remote teaching and learning (Ares Abalde, forthcoming).

Box 4.1. Small schools – lessons from Portugal and New Zealand

Generally, countries with a network of small schools use an array of tailor-made solutions, from leaving the issue of school staffing and size to the local level (Iceland) to sharing specialised peripatetic teachers within a school cluster with a common educational project (Spain). Portugal and New Zealand have both reflected on the issue of school size; while Portugal has introduced school clusters and restructured the school network, New Zealand makes use of remote schooling at a correspondence school and funds both schools and teachers according to geographical location.

Portugal

Teacher salaries in Portugal increased by 26% between 2000 and 2011, one of the highest increases among OECD countries, to reach the OECD average. Portuguese teachers, on average, earn more than other tertiary-educated workers, which provides an incentive for qualified candidates to join the profession.

Portugal has a rather centralised system of education governance, with the Ministry of Education and Science (MoES) responsible, among others, for teacher recruitment and the education budget. In an effort to decentralise the system, municipalities were given more autonomy starting in 2008. However, secondary education is still steered at the central level.

Recently, Portugal has gone through a process of school restructuring, reorganising its extremely dispersed school network. In 2006, school clusters were introduced, grouping several schools of one or more education levels around a common project. In 2012, they represented one-fourth of all pre-primary, primary and secondary schools. The aims are to facilitate transitions and to deal with geographical and social disadvantages. Isolated schools (schools in remote areas) were closed (in consultation with local governments and the school executive boards, and based on retention rates), and students were transferred to larger institutions, often newly built. At the same time, support measures were offered for parents whose children would be transferred, *e.g.* free transportation to and from school, a free lunch at school for disadvantaged children, or enhanced facilities.

In 2010/11, Portugal closed schools that were either considered too small (less than 21 students) or performing below average. Municipalities were involved through the Agreement on the Reorganisation of the School Network. It was they who decided on school closures while coordinating with the central government on redeployment measures. Primary and secondary schools may sign an autonomy contract with the MoES upon successful self- and external evaluation. This allows schools greater autonomy over human resources and financial management.

In an effort to reduce and rationalise public administration, the Regional Directorates in charge of policy coordination and implementation were dismantled in 2013. Their responsibilities were assumed by the Directorate General for School Administration within the MoES, with more autonomy than before for the school network.

Possible lessons for Latvia: Portugal managed to consolidate schools, with a focus on small and underperforming schools, while at the same time involving the municipalities. The idea of school clusters could be explored further.

Box 4.1. Small schools – lessons from Portugal and New Zealand (continued)

New Zealand

New Zealand maintains a network of small rural schools (often called area schools) which receive additional funding based on an isolation index. In 2012, 11.5% of all public school teachers taught at rural schools. Reflections on the appropriate size of schools started decades ago and in 1991, the government commissioned a review on the economic and educational viability of small schools. Between 1999 and 2006, 148 primary and secondary schools in rural areas closed. In 2006, while the proportion of students going to rural schools was at 8.2%, 30% of all public schools were rural.

If a student meets certain criteria related to geographical circumstances, the Ministry provides free remote schooling at the Correspondence School (called Te Kura), New Zealand's largest school. This concerns students whose families live at distances more than 3.2km (primary and lower secondary levels), or more than 4.8km (upper secondary level) from the nearest school or bus route, as well as students whose school is located behind a geographic barrier. In 2008, Te Kura established a regional learning delivery and support model. The school provides in-region support, staff working directly in local communities.

Possible lessons for Latvia: New Zealand surveyed and reviewed its network of small, isolated schools. It makes advanced use of ICT in order to offer comparably cheap alternatives for families who, despite school consolidation, do not (or cannot) move to more populated areas. Furthermore, there is also an elaborate system of school grants and teacher allowances to compensate for geographic isolation.

Sources: Ares Abalde, M. (forthcoming), "School Size Policies: A Literature Review", *OECD Education Working Papers*, OECD Publishing, Paris; New Zealand Ministry of Education; OECD (forthcoming), *Education Policy Outlook: Making Reforms Happen*, OECD Publishing, Paris; OECD (forthcoming), *Education Policy Outlook: Portugal,* OECD Publishing, Paris; Stevens, K. (1992), "Recent Developments in Rural and Distance Education in New Zealand and their Implications", *New Zealand Annual Review of Education*, no. 1, pp. 160-172.

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CHAPTER 5: TOWARDS A NEW MODEL FOR TEACHER REMUNERATION IN LATVIA

In preceding chapters we described the Latvian education system in context, summarised its performance against international benchmarks, described some of the relevant policy lessons learned from evidence and experience in OECD countries and gave an assessment of the teacher remuneration system. In this chapter we set out our understanding of the aims and desired impact of a new system, discuss its characteristics, and make proposals for both short- and long-term changes.

We are conscious that the current system was introduced only a few years ago during an economic crisis and that it represents both a drastic change of approach and a radical reduction in resources. Since 2009, some teacher funding has been restored, but the system remains young. While there have been significant changes in the education landscape, the consequences of the new system are still being felt.

Our proposals for Latvia are based on available evidence and our assessment of it, and are grounded in current cultural and political realities. Remuneration systems perceived as fair by all are rare, but it is clear that the widespread discontent with the recent changes has focused attention on pay, hampering broader reform.

The aims and impact of a new system

We are not in a position to make recommendations on issues other than teacher pay. However, new systems of remuneration for teachers in general education should support education policy objectives as a whole, including those for secondary schools, vocational education, students with special needs, and schools operated by other Ministries outside Education. More generally the teacher remuneration should foster and enhance educational quality for all students as efficiently as possible (see also the country snapshots in Annex B).

The system should be more transparent and goals-oriented. It should be perceived as fairer to teachers and to municipalities.

Equity is a fundamental aim. A well-designed funding formula is the most transparent and fairest method of funding schools. The genuine strengths of the current "money follows the student" formula as the main driver for staffing and budgeting, as enabler of free choice and incentive for local policymakers to allocate money effectively should be retained. But students are not all the same and pure per capita funding does not address specific needs. Funding formulas always take account of a range of factors beyond enrolment. Using a needs-based group of variables is most conducive to equity (OECD, 2012). In the case of Latvia, the revised funding formula should prove more responsive to the needs of disadvantaged students and schools.

Nor should remuneration be reduced to student characteristics or their location. Remuneration is a legitimate element of teacher policy and a proportion of funding should recognise teacher performance and their skills. The revised formula must express a vision of the teacher as a professional with a decent salary and good employment conditions. Teacher salaries must be more competitive with other public service salaries. Although teacher salaries have been partially restored since the cuts in 2009, there is a need to raise the *minimum* salary substantially. Performing extra contact lessons or working in several schools, as almost 13% of Latvian teachers do (see Annex A), to have a higher income is no substitute for an appropriate salary.

Raising the minimum salary does not necessarily imply raising the overall or average salary cost by the same amount. A substantial difference could be made by reducing the 40% weighting for additional duties applied to all workloads and incorporating that amount into the minimum salary. While not affecting the overall salary cost, this would decrease the room for manoeuvre that municipalities have in distributing funding between schools. How much of the 40% that should be incorporated into the minimum salary is a matter of political judgment.

Teaching must be made a more attractive profession: OECD evidence suggests that one of the most powerful success factors in education is attracting quality graduates. While this is not only a matter of the salary, remuneration does matter. Latvia pays teachers less than other European countries. We believe that any new system of teacher pay will require basic salaries to increase in real terms. In Latvia, the profession is more feminised than in OECD countries; improving the image of teaching for both women and men would permit a more positive and balanced view of the profession (Kelleher, 2011).

Once good people have been recruited into the profession, they must develop and progress. Those who choose to become teachers, who undertake the initial training, need to continue to be motivated to give their best. Status, working conditions and opportunity for professional development all contribute to ensuring that good teachers are attracted and retained (OECD, 2011). While linking remuneration to the *quality* of teaching will in principle motivate the teaching force, in practice this is sensitive and controversial. Making fair and reliable judgments about teacher quality is very difficult and many countries use *experience* (length of service) or *professional levels* as a partial proxy for quality. There is a strong argument for making an element of salary dependent on length of service and on teacher efforts to develop professionally.

The remuneration system has been criticised for lack of transparency and for raising uncertainty among teachers as to how much they will actually be paid. In our view, this has little to do with the complexity of the system – if anything it is too simplistic and insufficiently sensitive to student characteristics and local circumstances – and has far more to do with the fact that teaching loads are not calculated exactly until mid-September, or even later.

Characteristics of a new model

We believe changes can be made in the short term for which we assume no change in the existing balance of competencies between central and local government, or in the freedom that parents have to choose the schools for their children. Longer-term recommendations would require wide consultation,

as they would have implications for other areas of policy. In both cases any future teacher pay system should have the following characteristics:

- Increased **minimum salaries** and **higher maximum salaries** to attract prospective teachers, both women and men. Average earnings for teachers should be comparable to those of other graduate public sector employees. The scope for career progression should be greater and clearer.

- A model based on **student needs**, not simply enrolment. Disadvantaged students and schools need increased resources to achieve more equitable learning outcomes. Need-based variables must be included in the funding formula. Identifying and weighing the indicators of disadvantage is a matter of policy priorities. These should be based on the well-defined groups of students with additional needs, reliable statistics regarding their numbers, and formula coefficients that reflect real costs associated with additional support to these students.

- **Additional duties** should be incorporated into the base salary calculation. A professional teaches, prepares and plans lessons, writes and corrects homework and tests, and works with students who lag behind or who are exceptionally talented. These are core duties for a teacher and should be part of their job description. The current system of identifying a list of additional duties and rewarding them financially is not productive and leads to unnecessary uncertainty.

- **A revision** of the coefficients paid for students in different grades. The current system applies a greater weight to students in grades 10-12 and applies a further 10% to gymnasia students. It applies a lower coefficient for grades 1-4, except for small schools. This approach confuses two different factors: student characteristics and school size. Additional payments for small schools should only apply to those in sparsely populated areas and should be catered to in a separate component of the calculation. Any differentiation in funding should reflect real cost differences between students rather than a political consensus over the redistribution of funds to different areas.

- Remuneration to be **linked to quality and experience** and professional levels of teachers, to some extent.

  Quality: Latvia has used EU funding to develop a system of performance-based pay, recognising such factors as teacher contribution to institutional development, their own professional development and how they plan and manage their work. The system needs to be evaluated and connected to the new system of teacher remuneration. The notion that remuneration can be based wholly or largely on student outcomes is seductive, but misplaced. No reliable methodology exists for evaluating the performance of individual teachers in such a way as to derive fair remuneration.
  Experience: While remuneration should not be based unduly on length of service, there is a case for recognising that teachers at the beginning of their careers are still gaining experience and that those who have successfully completed a certain period of service should have a higher salary. Increments based on length of service are widely used and can be considered for the initial years of teaching (Ingersoll and Strong, 2011).

- Greater **sensitivity to the types and locations of schools**. School-specific factors are already taken into account, but in a way which muddles political and educational aims. There is no

educational reason why the notional class size in a city should be higher than that in a rural town or village. It would be better to account for population density in an explicit way, making additional payments to schools in sparsely-populated areas. Several different population density categories can be envisaged.

- An **earlier date** for establishing enrolments will improve planning. A new system would be likely to be perceived as fairer, and would provide greater certainty for teachers and stability for municipalities and schools. Calculation for any given school year could be based on observed student numbers over the previous school year. This is likely to improve the school organisation and the allocation of teaching loads to staff.

In moving from analysis to recommending alternative models as we were asked by the Latvian authorities, we are mindful that it is not for us to dictate choices that are properly Latvia's. The teacher remuneration system does not only determine how much individual teachers earn, it has an effect on the attractiveness of the profession, on the organisation of schools and on the educational outcomes of students. The precise impact it will have depends on a considerable number of factors, some of which are within the control of the Ministry of Education and Science and the government, others which are not.

Once the appropriate overall sum for teacher pay has been agreed upon, the mechanism for distributing these resources needs to ensure that they go where they will have the most effect. Resource allocation matters go beyond the scope of this review, but we note that Latvian municipalities have considerable freedom in allocating the funds from the central government. Moreover the ability of municipalities to supplement central funding from their own resources varies. This is a natural corollary of local autonomy but the scope for reallocation should not be such that it creates the impression of unfairness or inequity. The resource allocation responsibility of local authorities and schools should not exacerbate perceptions of inequitable treatment for teachers doing similar work.

Changes to the current regulations

The current system, allowing municipalities the discretion to reallocate teaching funds across schools, and permitting schools themselves to distribute work among teachers, has resulted in an unacceptable level of variation in teacher remuneration for performance of essentially similar tasks. Incorporating lesson preparation and correction, administrative paperwork and other separately-identified tasks into the basic workload would reduce this variation. We recommend that the statutory minimum salary should be raised in this way. Such changes would enhance the attractiveness of the profession, provide incentives to improvement, and reduce apparent unfairness.

So far as school-related factors are concerned, we believe that the system should be designed to facilitate retention of existing schools for grades 1-6 as close as possible to children's place of residence, even where the schools might be quite small. The system should not encourage or incentivise small secondary schools, however. The argument for educating children close to home becomes much weaker as they grow older, and is outweighed by the need to offer a broad-based education at secondary level. This is a sensitive matter, but as a first step we would recommend that

the coefficients for pupils in grades 1-6 should be raised to 1 for all pupils of that age, regardless of school size.

Like Latvia, many OECD systems budget more for older pupils. However, while the coefficient should be the same for grades 1-6, we recommend the coefficient for grades 7-9 and 10-12 should be even higher – perhaps for grade 7-9 between 1.1 and 1.25; and for grades 10-12 between 1.2 and 1.5. We do not see a case for additional weighting for gymnasia.

We also recommend changes to the way in which the system accounts for different municipal characteristics. The 2009 catalysed rationalisation of the school system, but it was a blunt instrument. Using only two levels for assumed student-teacher ratios penalises some smaller cities and does not adequately reflect the difficulties of providing education in sparsely populated areas. We would recommend a **more graduated approach** related to population density instead of student-teacher ratios. Annex A1 includes further discussion of this approach.

We do not have the evidence or the mandate to recommend major changes to funding allocation between central government to municipalities, or from municipalities to schools. We therefore assume that, once funding amounts are calculated, it remains within the discretion of local authorities to allocate them as they see fit. We see merit in simplifying the system, notably by **advancing the date for calculating enrolments** for the school year, rather than trying to account subsequently for minor variations in class size. This is a matter of local circumstance and discretion. A head count of students on 1 February, as in the Flemish Community of Belgium, would greatly reduce uncertainty and instability for teachers and other staff. A calmer start to the school year would benefit students as well.

Longer-term changes

Over the longer term, the way in which **the funds to be made available to municipalities are determined should take greater account of the needs of students**. The "money follows student" principle already allows for some modification to account for special educational need and we believe this to be the right approach, but it should be extended so that the system pushes resources better to those most in need. Education systems in OECD member countries have identified a whole range of such indicators: socio-economic ones such as family background (educational attainment of parents, occupational status of parents, single parent families, family income, language spoken at home), special needs, school location or home background, regional inequities like high unemployment rates, ethnic minorities such as Roma people or immigrants who do not speak the language of instruction at home. A limited number of relevant indicators could be selected and weighted.

While the short-term changes we have recommended would have the effect of apparently raising the minimum salary, they would not increase average earnings of teachers. **We recommend therefore that steps should be taken to ensure that teachers' earnings are more in line with those in comparable countries.** While it might be unrealistic to expect salaries to rise to the international (OECD) benchmark of 1.24 times per capita GDP, we believe that the average teacher salary should be at least similar to the average public service salary. The best way to do this would be to increase the minimum salary and to extend the salary scale (for a given type of post) to provide more

differentiation and incentive to teachers. Criteria for progression might include seniority, completion of continuing professional development, additional responsibilities and a quality assessment.

The last of these is the most difficult to implement fairly. The recently-introduced teacher assessment system is a step in the right direction, but the review team felt it could be applied with a greater degree of discrimination. A review of its operation and impact would be timely. Once reviewed the teacher assessment system should be fully integrated in the remuneration system. A system of professional levels could be introduced, and should differentiate among levels to avoid the situation where almost all teachers are lumped into one professional category.

Municipalities have used the flexibility given to them under the 2009 reforms to mitigate some of the harshest consequences of the financial crisis and the ensuing cuts in expenditure (Hazans, 2010). This is not unreasonable given the inequities inherent in the scheme. However, over the longer-term there is a case for constraining this latitude, assuming that the funding scheme has been adjusted to better reflect student needs. **Municipalities and schools should be held responsible for managing the budget allocated to them**. Indeed, they should be more accountable to government for positive outcomes. Reducing or removing the 15% coefficient for administration would be one option. The sums allocated for distance or evening students should also be reviewed.

Although it was outside our remit to recommend changes to the organisation of local government, we are concerned that, notwithstanding the reform of the public administration in 2009, many municipalities are too small to have the capacity to effectively manage an education system. The OECD team was only able to meet with a small selection of municipalities but was struck by the variation in the extent and the manner in which they addressed school organisation and finance. The World Bank (2010) has noted that some *novadi* are unaware of the options available to improve efficiency. They suggest that more central guidance and greater knowledge sharing among municipalities might contribute to fuller implementation of the reform. We endorse this suggestion. Effective and efficient resource distribution is dependent on reliable management information and on administrative capacity.

Next steps

During 2014, while this review was being prepared, a working group set up by the Latvian government has been reflecting on some of the same issues and has proposed models of reform sharing some similarity to those set out above.

Whatever policy option is chosen, it will be necessary to continue monitoring the impact of the changes introduced and to make minor adjustments to the system. It is unlikely that complete predictability can be achieved, either for teachers or for the government. In a system which values the freedom of students and parents to choose their schools, and where families are at liberty to move, any budgeting process will necessarily be approximate.

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ANNEX A1. TEACHER REMUNERATION IN LATVIA – SCHOOL- AND TEACHER-LEVEL DATA ANALYSIS

Remarks on the data used

The data used for the analysis are based on administrative records stored in the State Education Information System (known by its Latvian abbreviation VIIS). The Latvian Ministry of Education and Science (MoES) provided, for each of the school years 2010/2011 to 2013/2014, two datasets extracted from VIIS which include complete information on teacher remuneration in October and February. Every record refers to a specific job or task performed by a particular teacher in a particular school and compensated from a particular source of funding. Note that hereafter (if not stated otherwise) "teachers" include classroom teachers (those teaching subjects), administrative and professional support staff.

The records include teachers' and schools' ID numbers (data on teachers was anonymised for confidentiality reasons), background information on the school (such as school type and legal status, as well as the municipality where the school is located) and the teacher (age, education level, experience as a teacher, level assigned during quality assessment, etc.), job title, source of funding, wage rate per workload, number of compensated hours and workloads, accordingly calculated "regular" compensation, bonuses and other additional payments, and the total (before-tax) amount of compensation for the given job/task.

For February 2014, an additional and more detailed dataset was provided for classroom teachers, with information on subjects taught and separate records for every teacher-subject-class-school combination.

The payroll datasets have been cleaned and merged with biannual school census data which provide additional information on schools (number of students by grade, language of instruction, number of students in special programmes, as well as in evening/shift and distance learning programmes, etc.).

All Tables and Figures in this Annex are based on calculations with micro-level data from the datasets described above (and refer to either September 2013 or February 2014).

As shown below, it is not unusual in Latvia that a teacher works in more than one school. If this is the case, the school where the teacher has the largest workload is referred to as his/her "main school". Unique combinations of individual teachers and schools are referred to as "teacher positions". Obviously, there are more teacher positions than individual teachers. When necessary, we distinguish results which refer to teacher positions and those which refer to individual teachers.

Furthermore, a teacher might have several jobs (e.g. "basic education teacher" and "librarian", or "school head" and "secondary education teacher") in a given school (or in different schools). When this is the case, the job with the largest workload is used for classification.

Main school categories and teacher groups in the context of remuneration system

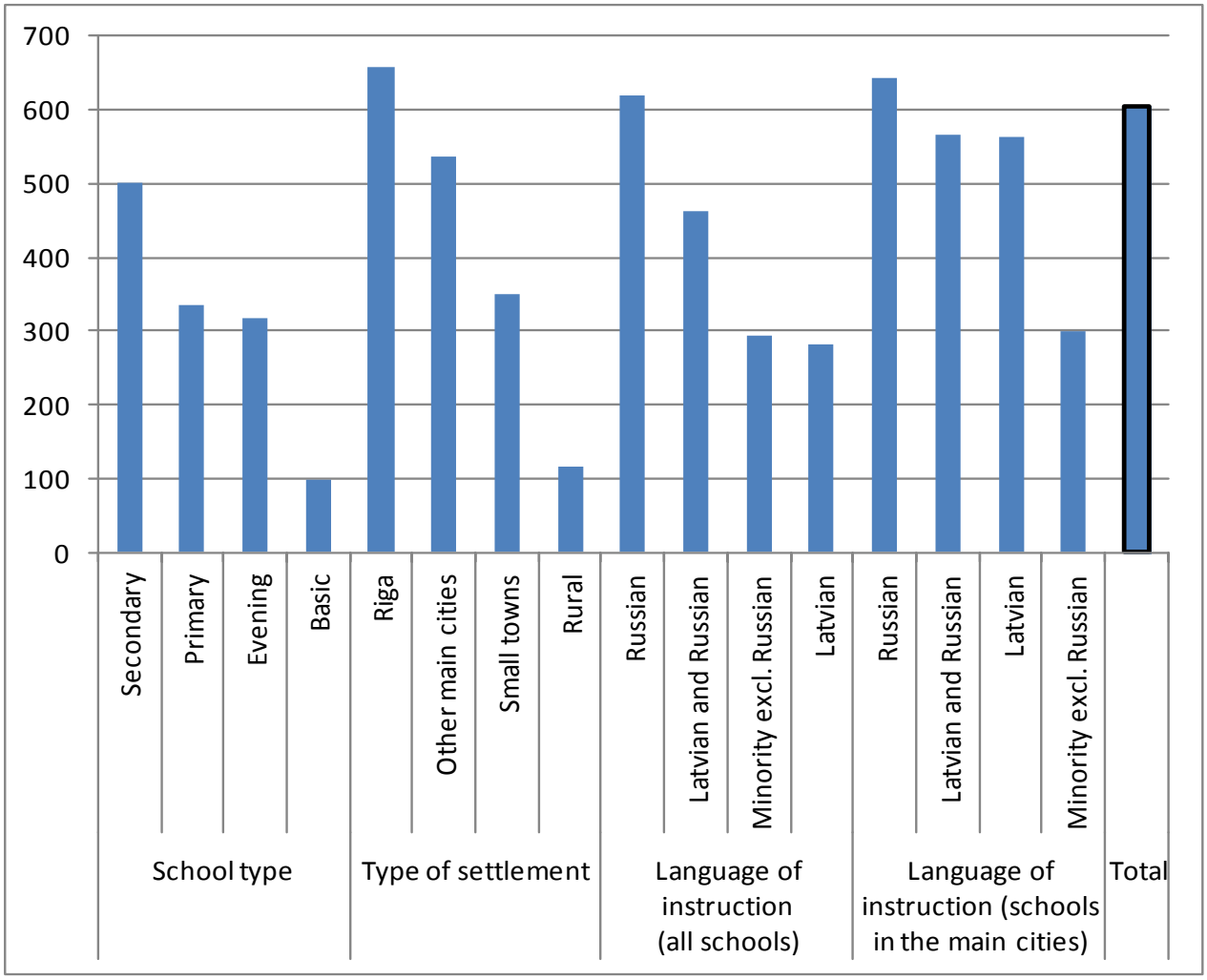
In this Annex the analysis and discussion is often organised by categories of schools. We distinguish seven *school types*: (1) Preschools; (2) Primary schools (grades 1 to 6); (3) Basic schools (grades 1 to 9); (4) Secondary schools[1] (usually grades 1 to 12; in some cases grades 7 to 12); (5) Evening (shift) and distance learning schools; (6) Special schools; (7) Other (sports, arts, music and vocational schools, and interest education centres).

Types (1) - (5) refer to general education institutions. We are primarily interested in types (2) - (5) (*general education schools*), where teacher salaries are financed mostly by the "earmarked state budget grant for teachers' salaries in general and professional schools" (referred to hereafter as the "main state grant"). The category of special schools includes all schools for students with special needs (*e.g.* basic and secondary schools) where teacher salaries (as is also the case for preschools) are funded separately. Category (7) is mixed (and mostly funded via several schemes other than the main state grant). We do not focus on categories (1) and (7) which are included in our data mainly because some of the general school teachers work also in "other" schools. Most of our analysis excludes teachers whose main job is in special schools, private schools, boarding schools, sports, arts, music and vocational schools, and interest education centres, or in stand-alone preschools.

Under per-student financing ("money follows student") of teacher salaries, teacher wage rates and earnings feature a strong positive correlation with *school size* (see Figures A1.4 and A1.7 below). In this context, it is worth noticing that secondary schools (median size 502 students) are usually substantially larger than primary and evening schools (median size 336 and 317 students, respectively), while basic schools are much smaller (median size 99 students)[2] (see Figure A1.1). In our descriptive analysis, we classify schools by size as follows: (i) up to 100 students; (ii) 101-150 students; (iii) 151-300 students; (iv) 301-499 students; (v) 500 and more students.

Third, we classify schools by the *type of settlement*: (A) Riga (the capital city); (B) Other main cities (Daugavpils, Rezekne, Liepaja, Ventspils, Jelgava, Jekabpils, Valmiera and Jurmala); (C) Other urban (small towns); (D) Rural. Student density and therefore also typical school size decrease moving from category (A) to category (D) (see Figure A1.1). In the framework of per-student financing, this results in wage and earnings differentials between different types of settlements (see Figures A1.4 and A1.7 below). However, as argued in Hazans (2010) and reinforced by the analysis below, the current remuneration system which applies the same notional student-teacher ratio to rural schools and to schools located in small towns favours the latter category against all other schools.

Figure A1.1. Median school size for teachers of general education schools, September 2013



Notes: Private, boarding and special schools excluded. School size excludes preschool students, if any.

Source: Calculation with data from Table A2.1d.

Finally, schools in Latvia differ also by the instruction language. As reported in Table A2.1e, most general education schools (i.e. those of types (2) - (5)) instruct students only in Latvian (71% of teacher positions); but there are also two-track (Latvian and Russian) schools (10% of teacher positions), "Russian" schools (instruction of some subjects is in Russian, while other subjects are taught in Latvian or bilingually; 18% of teacher positions) and other minority (Polish, Estonian, Lithuanian, Jewish, Ukrainian and Belarussian) schools (some subjects are taught in minority language or in Russian, while other subjects are taught in Latvian or bilingually; 0.8% of teacher positions). Note that in "Russian" and other minority schools the proportion of instruction time in Latvian increases with grade and reaches 60% at the upper secondary level.

In the main cities, Latvian-language schools have only about a half of teacher positions, while 10% of positions are in two-track schools, 38% are in "Russian" schools, and 2% in other minority schools (Table A2.1e). In other words, while Latvian-language schools are more or less evenly

dispersed across the whole country, Russian-language schools are concentrated in the main cities. This is why "Russian" schools are on average larger: the median size of Russian-language schools exceeds 600 students, while that of Latvian-language schools is below 300 students (see Figure A1.1). This size difference, however, is less pronounced (644 and 564 students, respectively) when only schools located in the main cities are considered.

Apart from the school categories we classify teachers by their (main) job type. We distinguish: (i) basic education teachers; (ii) secondary education teachers; (iii) school heads; (iv) deputy school heads; (v) support staff; (vi) preschool teachers; (vii) special education teachers; (viii) interest education, sports, music or arts teachers.

Some "basic education teachers" also teach at the upper secondary level and some "secondary education teachers" also at the lower secondary or even at the primary level. While the expressions "basic education teacher" and "secondary education teacher" refer to the job type, we sometimes will also use expressions such as "secondary school teachers" and "basic school teachers" to indicate the type of school where a teacher works. Thus, a "secondary school pedagogue" works in a secondary school, but s/he might work (in this or another school) as a "basic education teacher" or, for example, as a psychologist. Further in this subsection we focus on school types rather than job types.

The data in Table A2.1a suggest that the main goal of the teacher payroll system is ensuring fair remuneration for teachers working in

- basic schools: more than 7 400 teacher positions, including more than 5 000 in rural schools; and
- secondary schools: about 17 000 positions, including more than 9 000 in the main (republican) cities, more than 4 300 in small towns and more than 3 500 in rural schools.
- If necessary, special conditions may be applied to the payroll system for primary and evening school teachers (about 1 300 and 800 positions, respectively).

Table A2.1b indicates that the distribution of teachers by student density differs considerably in basic and secondary schools. Half of basic school teachers work in municipalities[3] with a student density of 1.6 or less per square kilometre, and three-fourths in municipalities with a student density of 3.5 and less. In turn, three-fourths of secondary school teachers work in municipalities with a student density of 1.6 and above, and half of them work in municipalities with a student density above 97.0. Mean student density (weighted by the number of teachers) in municipalities with secondary schools is more than three times higher than in municipalities with basic schools (these two groups overlap).

In terms of student density, teachers working in primary schools, while overall in a more favourable situation compared to their colleagues in basic schools, lag behind secondary school teachers. Three-fourths of evening school teachers are employed in municipalities with a student density of 2.4 and above, and half in municipalities with a student density of above 116.3. The distribution of preschool pedagogues across municipalities in terms of student density is similar to that of secondary school pedagogues.

When considering grouping of municipalities according to student density, these numbers may suggest the following classification of general basic and secondary schools are divided into three categories, including a normalised number of students per teaching workload:

(A) Municipalities with student density up to 1.5 (about 31% of general education day school pedagogues; see the list of municipalities in Table 1c);
(B) Municipalities with student density from 1.5 to 20 (about 26% of general education day school pedagogues; see the list of municipalities in Table 1c);
(C) Republican (hereafter referred to also as "main") cities (student density in September 2013 from 42 to 209; about 43% of general education day school pedagogues).

Then, a mixed (or hybrid) remuneration system is applied:

i. Salaries of teachers working in general (day) basic and secondary schools are financed from the earmarked state budget grant which is transferred to municipalities according to the principle "money follows student". Importantly, almost half of basic school teachers fall into category (A), while one half of secondary school teachers fall into category (C).

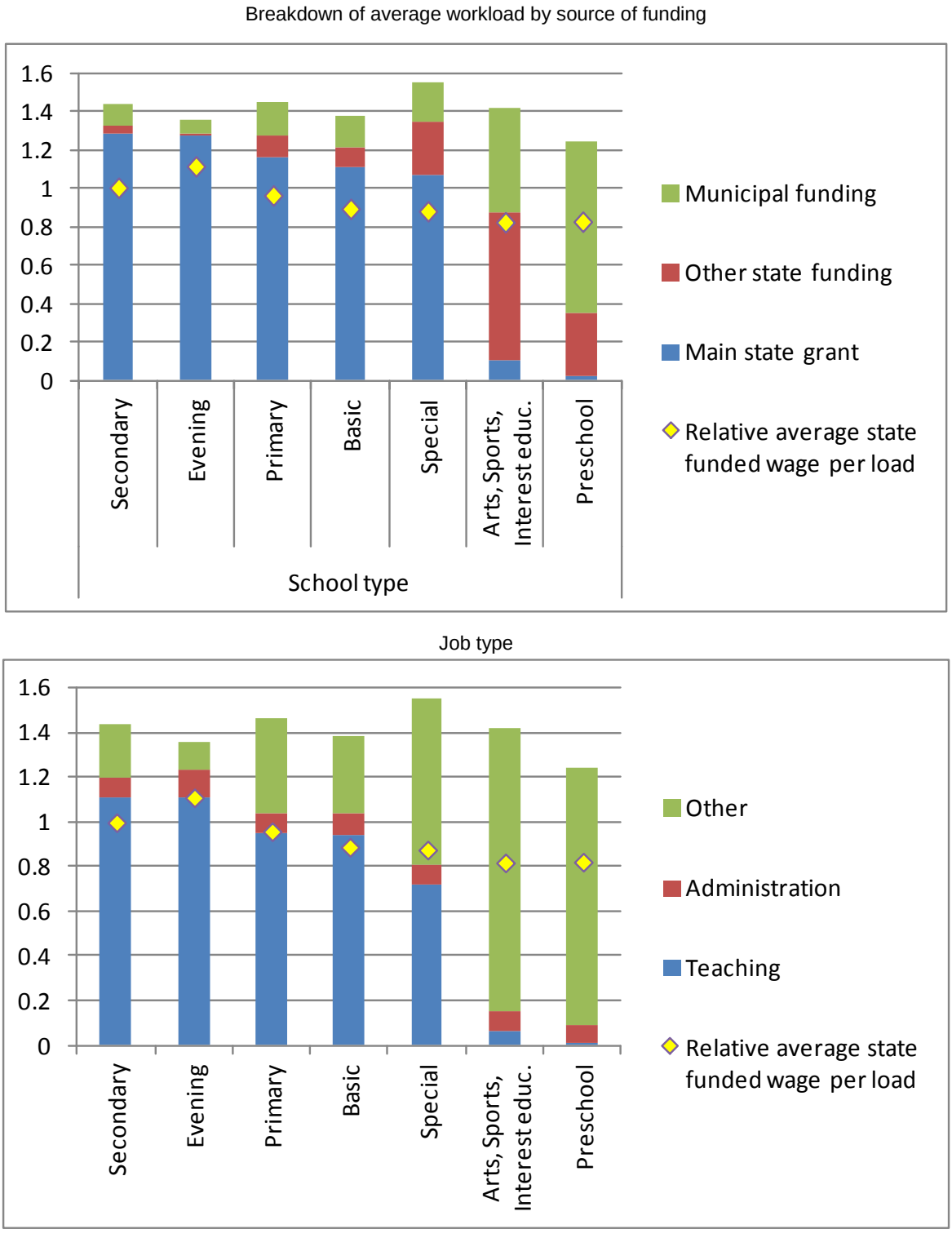
ii. A 36-hours model with fixed wages (depending on job tenure and results of assessment) is applied to teachers of primary and evening schools.

Teachers' workload and wage rates by school type

As Table A2.2 shows, in February 2014 one teacher on average was paid for 1.39 workloads. Teachers with the largest workload in one of the basic schools worked on average 1.38 workloads (including 1.29 workloads in the school with the largest workload, referred to as "main school" or "main job" in the following), which is 5% less than their colleagues with a main job at a primary or a secondary school (1.45 and 1.44 workloads, respectively, including 1.39 and 1.36 workloads in the main school). In terms of the average teacher's workload at the main job, basic schools lag behind primary schools by 7%.

Figure A1.2 presents the distribution of teachers' average workload by source of funding and by type of work depending on the type of teacher's main school. The average state-funded salaries per workload (wage rates) in different types of schools are shown as well.

Figure A1.2. Teachers' relative average wage per load (secondary schools = 1) in different types of schools, February 2014



Note: "Main state grant" stands for the earmarked state budget grant for teachers' salaries in general and professional schools.

Source: Calculation with data from Tables A2.2 and A2.5.

Secondary and evening schools feature the largest shares of the average workload per teacher financed from the main state grant, while teachers in basic schools lag behind their secondary school colleagues by 13% (Figure A1.2, top). The situation is similar with regard to teaching loads (Figure A1.2, bottom). Moreover, the average state-financed wage per load in basic schools is 11% lower than in secondary schools and 7% lower than in primary schools. These differences are explained by several factors:

- The school size effect (see Figure A1.1) which is only partly compensated by a larger notional student-teacher ratio in the main cities;
- The different composition of students by grades;
- The coefficients used for calculations of the number of loads funded by the state differ for various student categories and probably do not always correctly reflect differences in the amount of work required by curricula;
- The redistribution of funds across schools within municipalities.

Teachers' workload and wage rates by type of settlement and school size

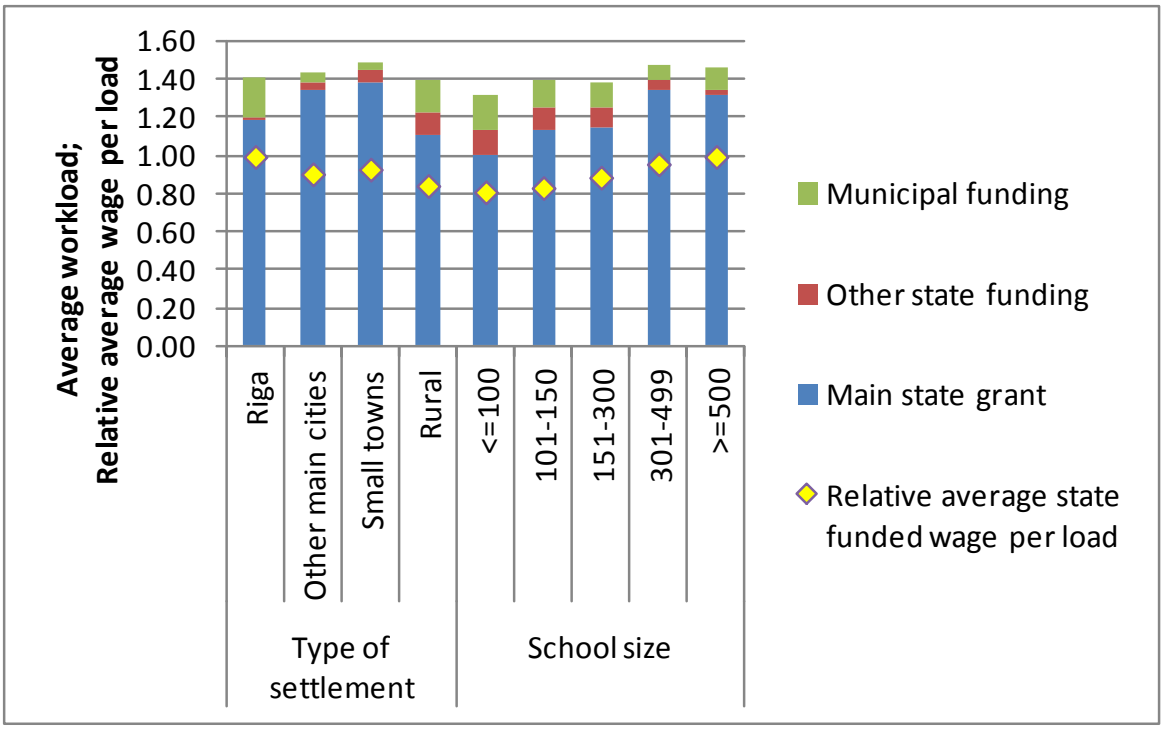
As shown in Figure A1.3 (and Table A2.3), in urban schools outside Riga 1.34 (main cities) to 1.38 (small towns) workloads per teacher are funded from the main state budget grant; in Riga this figure is just 1.18 and in rural schools it amounts to 1.11.

Hence, when speaking of only the "main" earmarked state budget grant, in terms of workloads Riga lags behind the other cities by 12% to 15%. At the same time the average wage per load financed from state funds in other cities is only 7% to 9% lower than in Riga.

Rural schools lag behind small towns both in terms of workloads financed by the state (by about 20%) and in terms of mean wage per load (by 9%).

However, when other state subsidies and municipal funding are accounted for, differences by school location are less pronounced: a teacher whose main job is in rural area (and in Riga, other main city and small towns respectively) is paid, on average, for 1.39 (respectively, 1.41, 1.43 and 1.49) workloads; small towns providing the most generous funding (Figure A1.3).

Figure A1.3. Teachers' relative average wage per load and breakdown of average workload by source of funding, depending on types of settlement and school size, February 2014



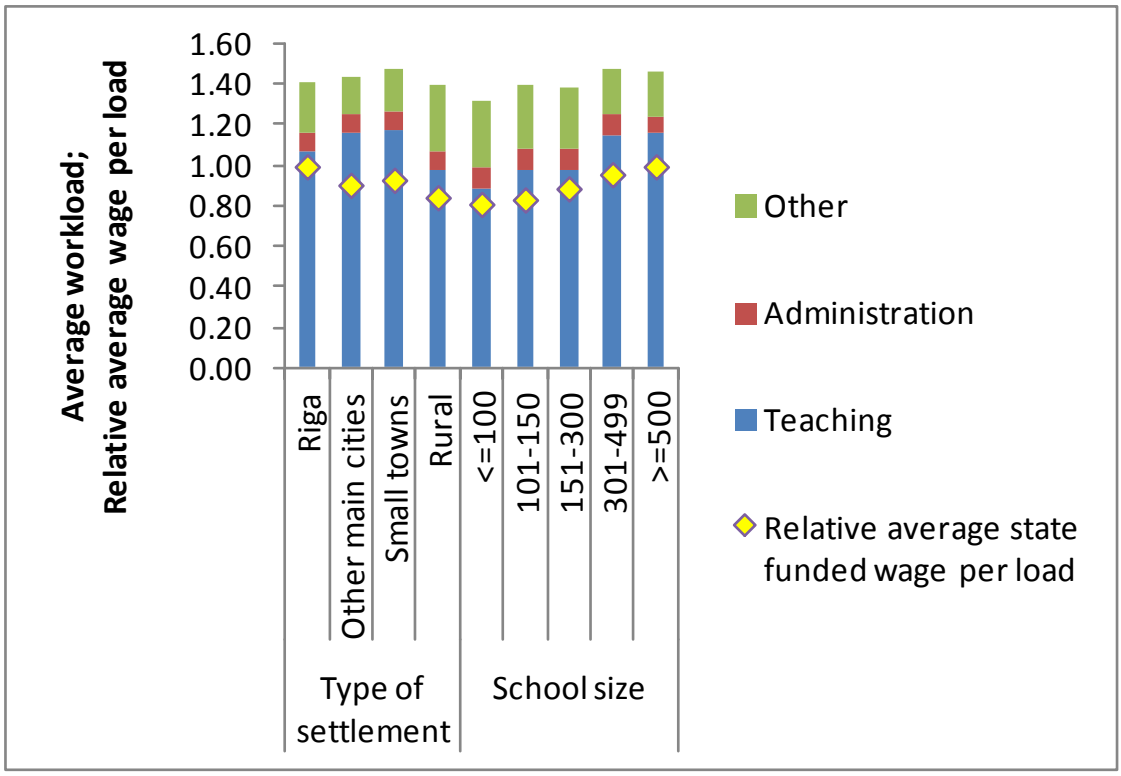
Notes: "Main state grant" stands for the earmarked state budget grant for teacher salaries in general and professional schools. "Teachers" include classroom teachers, administrative and professional support staff but exclude those with a main job in special schools, boarding schools, private schools and preschools. The relative average wage rate by type of settlement (by school size respectively) assumes that the average wage rate in Riga (in schools with 500+ students respectively) is 1.

Source: Calculation with data from Tables A2.3, A2.7 and A2.8.

The data summarised in Figure A1.4 show that the average number of teaching loads per teacher (irrespective of the funding source) is basically similar in main cities excl. Riga (1.16) and in small towns (1.17), while it is much smaller in Riga (1.07) and especially in rural schools (0.97).

The number of state-funded loads, the number of teaching loads per teacher as well as the state-funded wage rates generally increase with the school size; however, in terms of loads per teacher schools with 151-300 students do not differ from the ones with 101-150 students, and schools with 500 or more students not from schools with 301-499 students (Figures A1.3 and A1.4).

Figure A1.4. Teachers' relative average wage per load and breakdown of average workload by task, depending on type of settlement and school size, February 2014



Notes: "Teachers" include classroom teachers, administrative and professional support staff but exclude those with a main job in special schools, boarding schools, private schools and preschools. The relative average wage rate by type of settlement (respectively, by school size) assumes that the average wage rate in Riga (respectively, in schools with 500+ students) is 1.

Source: Calculation with data from Tables A2.3, A2.7 and A2.8.

Variation in state-funded wage per load within different groups of teachers

The variation in wage rates within various school types and teacher groups can be characterised by the ratios of percentiles of the distribution – p75:p25 and p90:p10 (see Tables A2.5-A2.11). While p75 is the median of the top half of the distribution and p25 is the median of its bottom half, the ratio p75:p25 shows (for a given category of teachers) how many times a typical middle-high wage rate exceeds a typical middle-low rate. This ratio characterises the "systemic" variation which is defined by geographic and demographic factors, as well as by rules and coefficients of the remuneration system.

Likewise, p90 is the median of the top quintile (i.e. the 20% with the highest rates), and p10 is the median of the bottom quintile (20% with the lowest rates), therefore (for a given category of teachers) p90:p10 is the ratio of "typical very high" and "typical very low" rates. One may assume that this ratio mainly characterises wage rate variation related to the school-teacher-level factors.

As shown in Figure A1.5, the largest variation in wage rates within different job categories is observed for deputy school heads followed by school heads, and the lowest for interest education and preschool teachers; the other job categories do not differ from each other significantly in terms of

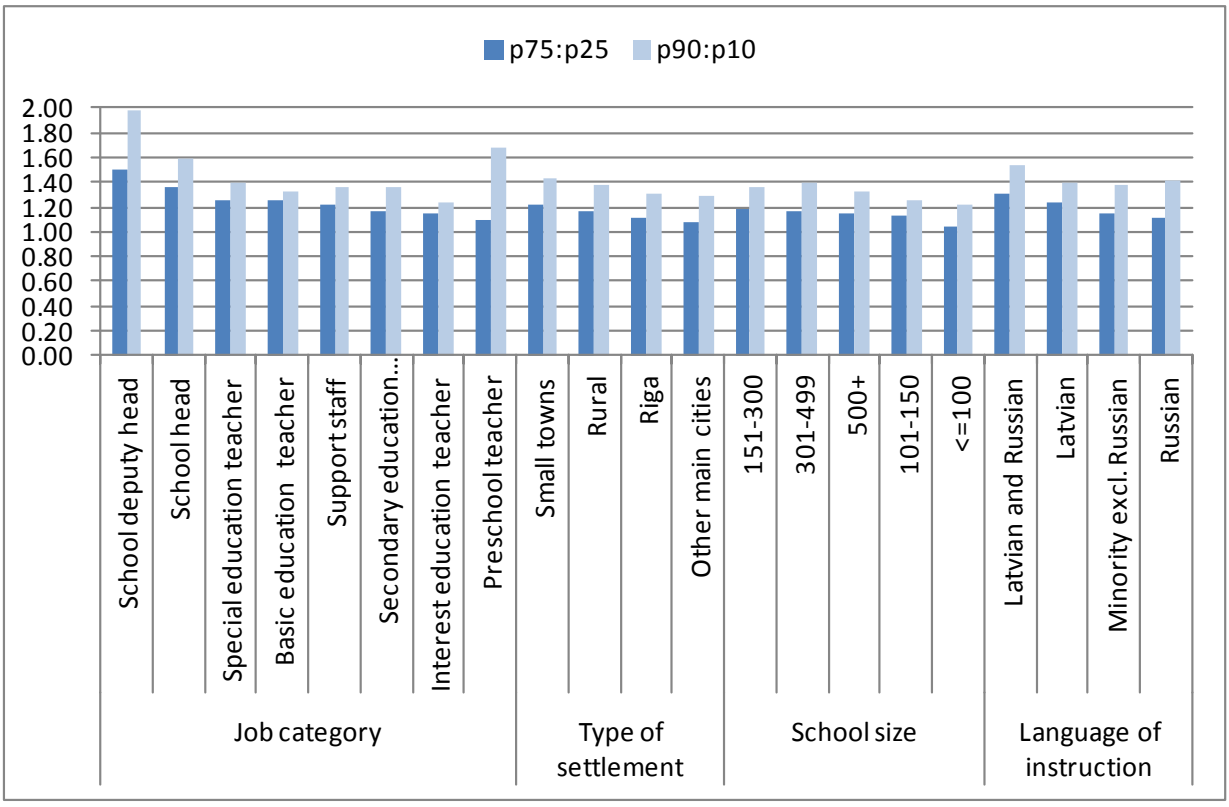
variation: middle-high rates are by about 20% higher than middle-low ones, while very high rates exceed the very low ones by 33% to 40%.

In small towns and other urban areas outside the main cities, as well as in rural schools, the variation of wage rates is much more pronounced than in the main cities: The gap between middle-high and middle-low rates is just above 10% in the main cities, while elsewhere it is about 20%. Likewise, very high rates exceed the very low ones by about 30% in the main cities and by about 40% elsewhere.

In medium-size schools (150 to 500 students) the variation of wage rates is stronger than in small and large schools. Finally, schools with instruction in Latvian language (and even more those which have both Latvian-language and Russian-language tracks) feature larger variation in wage rates than Russian-language and other minority schools. This is due to the fact that most Russian-language schools are located in the main cities, while Latvian-language schools are found in all types of settlements.

Figure A1.5. Variation in the main-state-grant-funded wage per teacher workload, February 2014

By teacher job categories, types of settlements, school size groups and school instruction language groups



Notes: p10, p25, p75 and p90 are percentiles of or wage rate distribution: p25 is located exactly in the middle of the bottom half, and p75 in the middle of the top half of the distribution. Furthermore, p10 and p90 are typical "very low" and "very high" wage rates: only in 10% of cases wage rates are below p10 (respectively, above p90). Within each of the X-axis clusters, items are sorted in order of decreasing wage inequality (as measured by the p75:p25 ratio).

Source: Calculation with data from Tables A2.6 – A2.9 (bottom panels).

For the *within-school variation* of wage rates for similar jobs, we focus on general education schools (excluding boarding and private) and teaching jobs (excluding administrative and support jobs, as well as interest education). Moreover, only workloads funded by the main state grant are considered. For every school, we calculate the ratios of middle-high to middle-low wage rates (p75:p25), very high to very low wage rates (p90:p10) and the highest to the lowest wage rate (max/min).

Table A2.10 reports minimum and median values of these indicators for classroom teacher positions in urban and rural settlements, as well as in the whole country. Variation is somewhat stronger in urban schools than in the rural ones. On the other hand, there is not much difference in terms of within-school variation between Riga, other main cities and small towns. The median values of p75:p25, p90:p10 and max:min ratios are 1.08, 1.17 and 1.33 for urban, and 1.08, 1.13 and 1.22 for rural schools. Thus, both in urban and rural settlements, half of classroom teacher positions are in schools where middle-high wage rates are by at least 8% higher than middle-low ones. In urban (respectively, rural) areas, half of classroom teacher positions are in schools where "typical very high" wage rates exceed "typical very low" wage rates by at least 17% (respectively, 13%), while the top wage rates are by at least 33% (respectively, 22%) higher than the lowest ones.

One can conclude that most school heads do exercise the discretion they have in setting individual teacher wage rates, generating substantial (although not excessive) within-school variation in teacher wage rates. On the other hand, in some rural schools wage rates do not vary at all, while in some urban schools most classroom teachers are paid the same wage rates, and the gap between the highest and the lowest wage rates is just 8%.

Teacher assessment outcomes and earnings

At the time of writing most teachers have gone through the Assessment System of Teacher Performance, yet the latest available microdata (February 2014) include information on assessment outcomes for just 6 574 teachers; even among classroom teachers these data are available for just 28%.

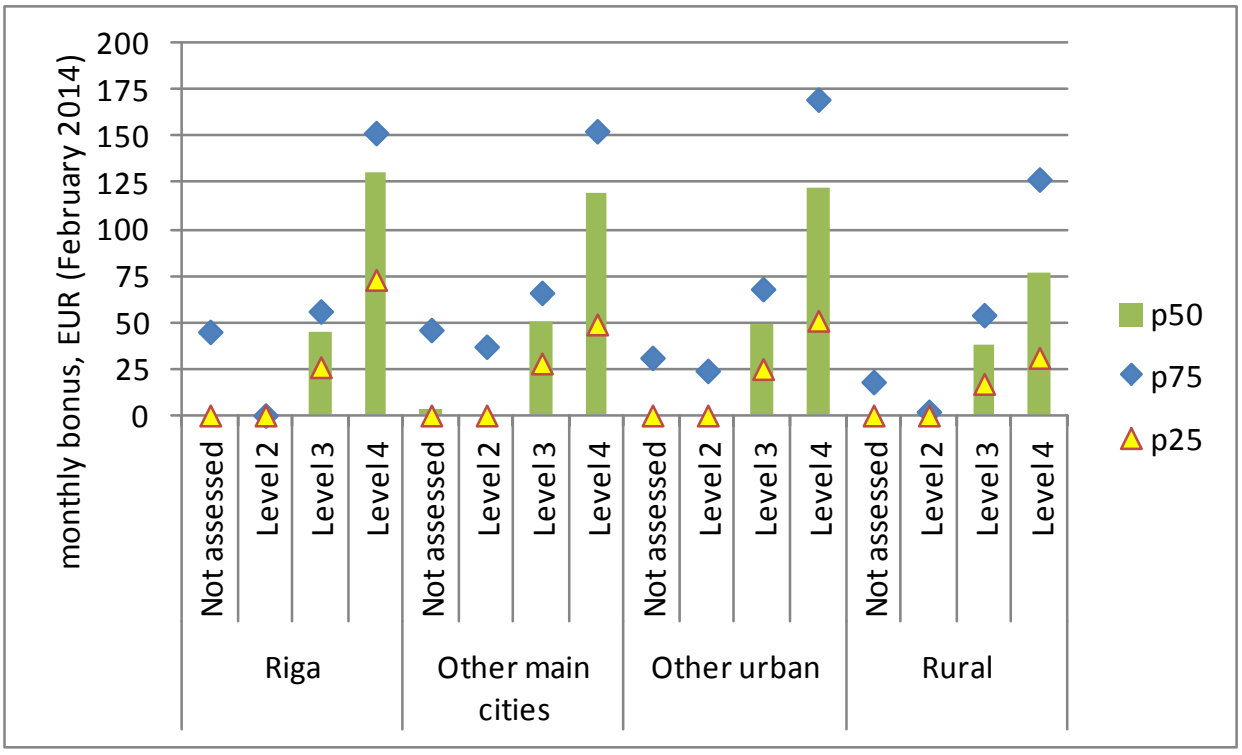
Obtaining positive results in the assessment procedure makes a teacher eligible for an additional monthly payment. Its size depends on the performance level assigned; for the most common level 3 it is 8%. On the other hand, as discussed in the previous section, basic wage rates per workload often vary within schools by much more than 8%. If school heads assign higher wage rates to better teachers and if the quality levels assigned during assessment correctly reflect the differences in teacher performance, one should expect to find a wage rate premium associated with the assessment results.

Microdata evidence (see Table A2.11 and the top panel of Figure A1.6) shows that in February 2014, as expected, in all types of settlements the median monthly bonus payment per teacher position increased from zero for teachers without assessed performance level or with level 2, to EUR 40 to 50 at level 3, while at level 4 it reached EUR 76 in rural schools and EUR 120 to 130 in urban schools. The pattern is similar also in the bottom part and in the top part (the 25th and the 75th percentiles) of the distribution of bonus payments, with one exception: the top 25% of teachers who have not gone through the assessment procedure also received bonus payments. In the main cities these payments were similar to the median payments at level 3, while elsewhere they were lower.

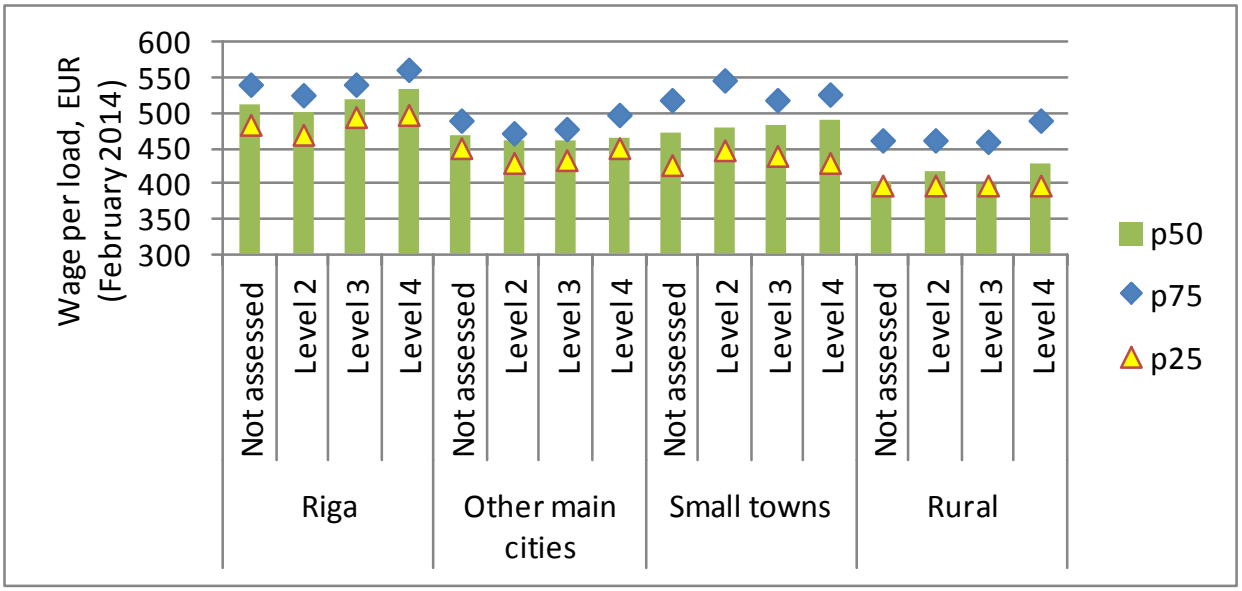
The situation is more nuanced for wage rates. Riga showed a clear positive correlation between assessment levels and wage rates in all parts of the wage distribution, while in other main cities it was found only for middle-low and middle-high wage rates (at the 25th and the 75th percentiles) but not for the median wage rates. In small towns there was no correlation at all, and in rural schools only level 4 was associated with a significant wage premium. Wage rates of teachers without assessment were slightly below level 3 in Riga and small towns, at level 3 (but below level 2) in rural schools, but somewhat above levels 3 and 4 in main cities other than Riga. Thus, except for schools located in Riga, descriptive statistics do not provide a strong empirical support for the assumption that the assigned quality levels correctly reflect the differences in teacher performance. However, econometric analysis supports it (see section on determinants of teacher earnings and Table A2.28).

Figure A1.6. Percentiles of teachers' wage per load and monthly bonus payments, February 2014

By type of settlement



By teacher assessment level



Note: Wage rates and bonus payments for assessment levels 1 and 5 not shown due to small samples.

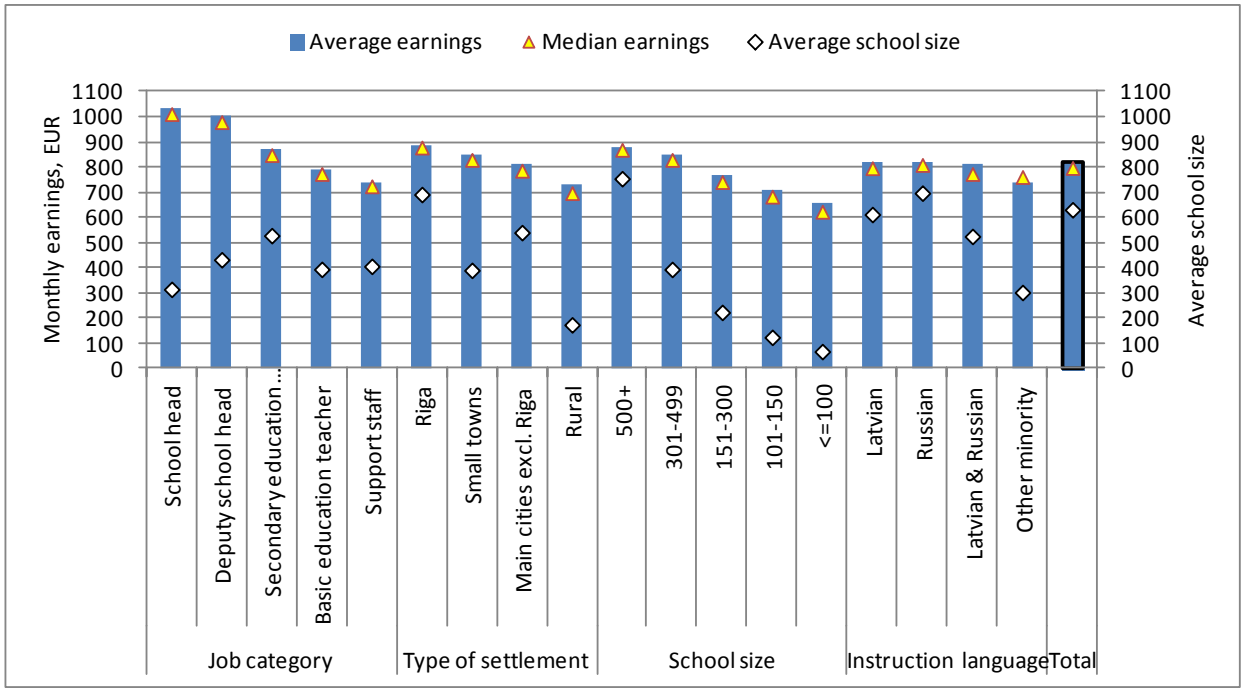
Source: Calculation with data from Tables A2.11a and A2.11b.

Average state-funded monthly earnings of full-time teachers: comparison across groups

On average, there exists a strong positive correlation between school size and state-funded monthly earnings of full-time teachers in general education schools (see Figure A1.7): compared to schools with 500+ students, teachers in schools with 301-499 earn, on average 3% less, teachers in schools with 151-300 students 13% less, with 101-150 students 19% less and with up to 100 students 25% less; the gaps in median earnings are by 2 to 3 percentage points larger.

The school size effect is the main reason why rural teachers lag behind their colleagues in Riga by about 17% or EUR 150; the gap in median earnings is even larger: 21% or EUR 181 (Figure A1.7). Average (respectively, median) monthly earnings of teachers working in main cities other than Riga are by 8.5% or EUR 75 (respectively, 10.5 % or EUR 92) lower than in Riga. Earnings of teachers in small towns are almost exactly in the middle between those in Riga and in other main cities, although average school size in small towns is just 390 students compared to 540 students in the main cities excluding Riga. In this case the size effect is mitigated by the preferential treatment of schools in small towns, where the notional student- teacher ratio used for calculation of the state grant is 8.12 as opposed to 10.35 in the main cities.

Figure A1.7. Average and median state-funded monthly earnings of full-time teachers in general education schools, by job category, type of settlement, school size and instruction language, February 2014



Notes: For reasons of comparability, only earnings funded from the earmarked state budget grant for teacher salaries in general and professional schools ("main state grant") are accounted for. Only teachers with at least one full workload funded by the main state grant at the given school are included. Special schools, boarding schools, private schools and stand-alone preschools are excluded. For each category of teachers, average school size (without preschool students, if any) is shown on the right axis.

Source: Calculation with data from Table A2.12.

Average earnings of school heads and deputy school heads (EUR 1 034 and 1 001, respectively) exceed those of upper secondary education teachers (EUR 867) by 19% and 15%, respectively, while earnings of basic education teachers[4] (EUR 788) and support staff (EUR 734) are, on average, 9% and 15% lower than those of secondary education teachers (Figure A1.7).

Average teacher earnings in schools with Russian as the main language of instruction are the same as in Latvian-language schools (EUR 817), despite the fact that the student body in Latvian schools is on average 12% smaller. In this case the school size effect is compensated by the school location effect: as follows from Table A2.1e, most Russian-language schools are concentrated in the main cities (where the main state grant funds one teacher workload per 10.35 notional students as opposed to 8.12 students elsewhere).

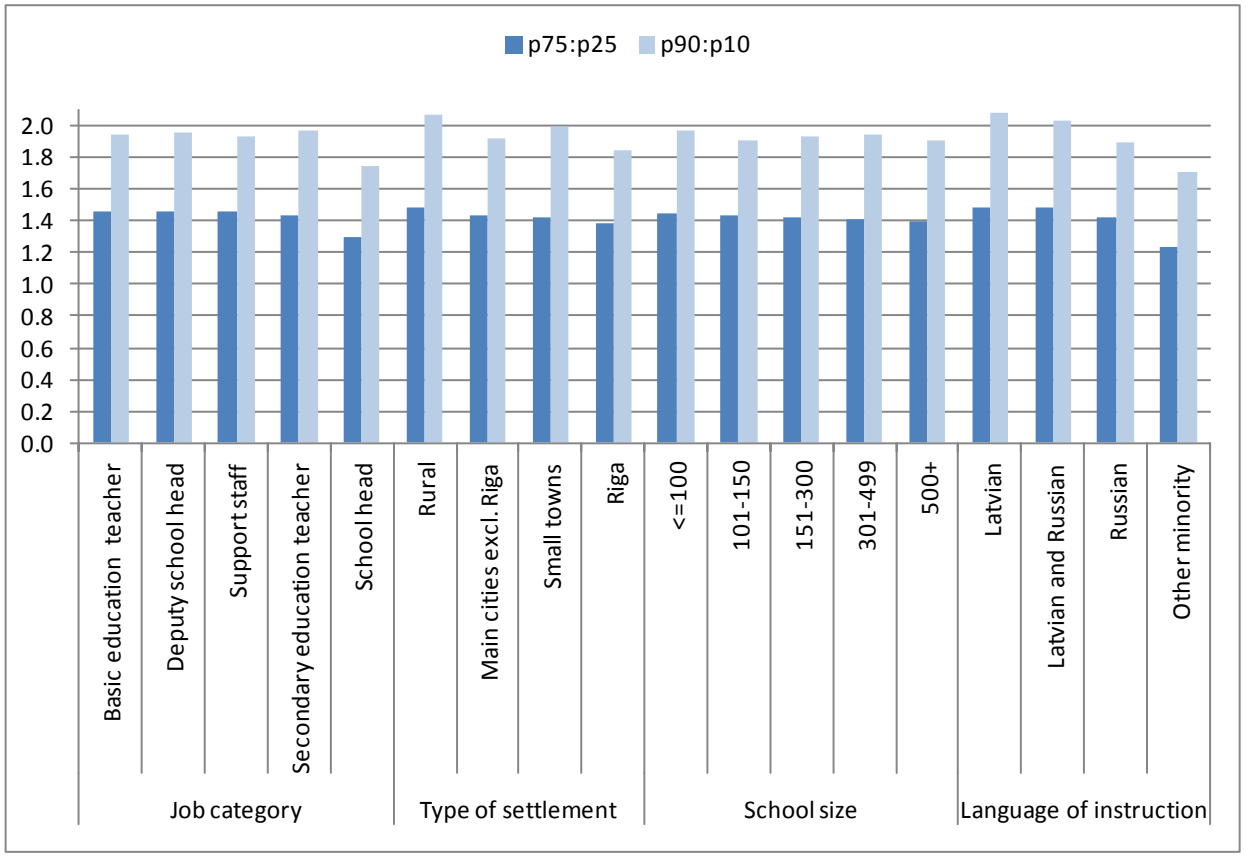
Variation in state-funded monthly earnings within different groups of full-time teachers

As shown in Figure A1.8, state-funded monthly earnings of teachers working full-time in general education schools feature substantial variation within four of five main job types: among basic education teachers, (upper) secondary education teachers, support staff and deputy school heads, the

middle-high earnings (at the 75th percentile) exceed the middle-low ones (at the 25th percentile) by about 45%, while the very high (at the 90th percentile) earnings are almost twice as high as the very low ones (at the 10th percentile).

Interestingly, the variation is almost exactly as strong within each of the four settlement types (the capital city, other main cities, small towns and rural areas), five school size groups and three school categories according to instruction language.

Figure A1.8. Variation in state-funded monthly earnings within different groups of full-time teachers in general education schools. February 2014



Notes: Only earnings funded from the earmarked state budget grant for teacher salaries in general and professional schools ("main state grant") are accounted for. Only teachers with at least one full workload funded by the main state grant at the given school are included. Special schools, boarding schools, private schools and stand-alone preschools are excluded.

Source: Calculation with data from Table A2.12.

Among school heads the variation is somewhat weaker: the middle-high (respectively, very high) earnings are by about 30% (respectively, 75%) higher than the middle-low (respectively, very low) ones. Earnings in schools with instruction in minority languages other than Russian display even less variation, but this is a relatively small category (235 teacher positions).

Details on variation in teacher total monthly earnings from all jobs in all schools are found in Tables A2.13 (by job type) and A2.14 (by school type).

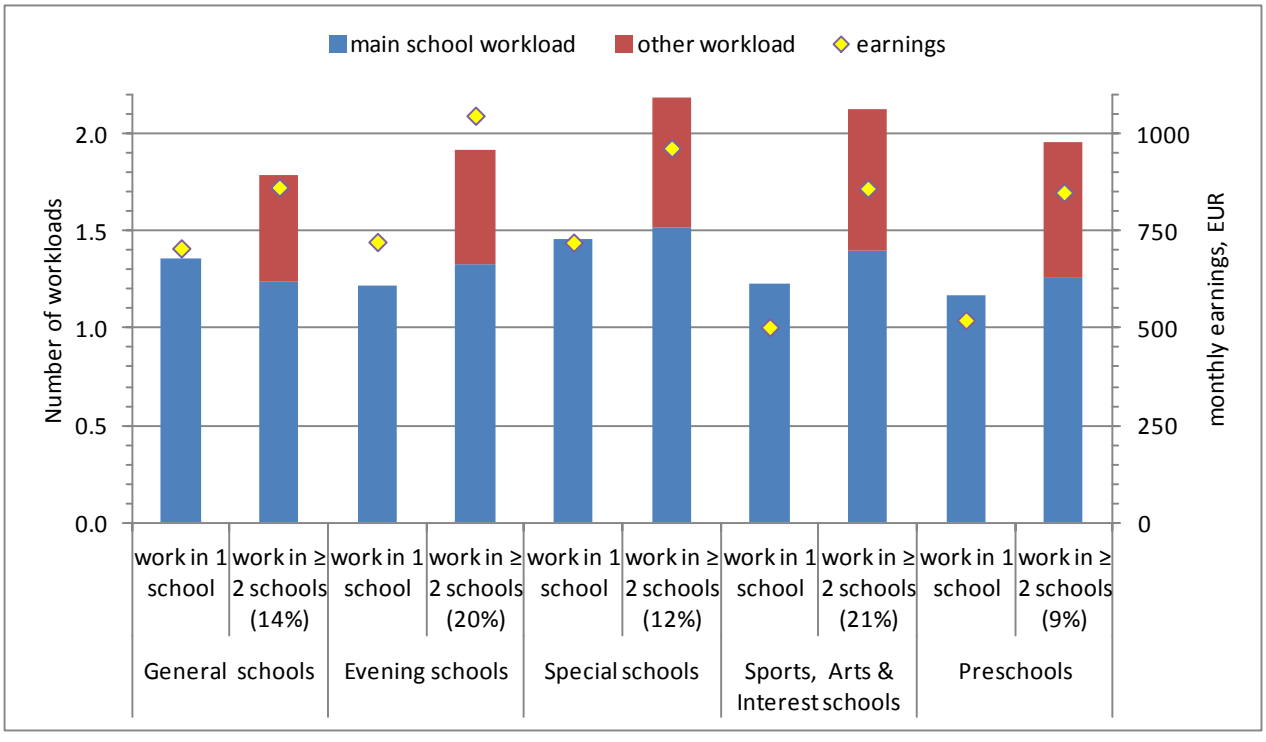
Teachers working in several schools

12.8% of all teachers in Latvia combine work in two or more schools. However, this proportion reaches 20% among teachers whose main job (the one with the largest workload) is in evening schools, sports and arts schools or interest education centres (Figure A1.9 and Table A2.1f).

As shown in Figure A1.9, teachers of general education schools who work in two or more institutions have, on average almost the same workload in their main school as their colleagues who are employed in one school only. Moreover, teachers working in more than one school whose main job is in an evening or special school, in a sports or arts school, in a preschool or in an interest education centre have, on average, even larger workload in their main school than teachers working just in one school.

To sum up, an average teacher working in two or more schools does so in order to increase his or her earnings. Indeed, teachers working in more than one school earn, on average, substantially more than their counterparts working in one school only (Figure A1.9): the difference is 22% in general education schools, 45% in evening schools, 34% in special schools, 63% in preschools and 71% in other education institutions.

Figure A1.9. Average workload and average monthly earnings of teachers working in one and in more than one school, by type of the school with the largest workload, February 2014



Note: The proportion of teachers working in more than one school is 9% in preschools, 12% in special schools, 14% in general schools, 20% in evening schools and 21% in Sports and Arts schools and interest education centres.

Source: Calculation with data from Table A2.15.

Teachers' age and experience

As indicated in Table A2.16, only 10.2% of all teachers were younger than 30 years and 4.1% were of retirement age (65+) in February 2014. According to data from the OECD Teaching and Learning International Survey (TALIS), the average age of ISCED 2 level teachers (grade 5-9) in 2013 in Latvia was 47 years, while the average age across TALIS countries was four years lower (OECD, 2014b).

As shown in Figure A1.10, the share of young teachers (below 30 years) is higher in preschools (14%), as well as in sports and arts schools, and interest education institutions (16%).

On the other hand, teachers of pre-retirement and retirement age (60+) are more often found in evening schools (16% of staff), special schools (14%), as well as sports and arts schools, and interest education centres (14%). Overall, teachers who work in evening schools tend to be older than in the other school types, which may partly be explained by the fact that balancing work and family life is likely more difficult for evening school teachers.

The remaining part of this section refers to general education schools. From job type perspective, the largest shares of pre-retirement and retirement age teachers are observed among secondary education teachers (15%) and school heads (22%) (see Figure A1.10 and Table A2.17).

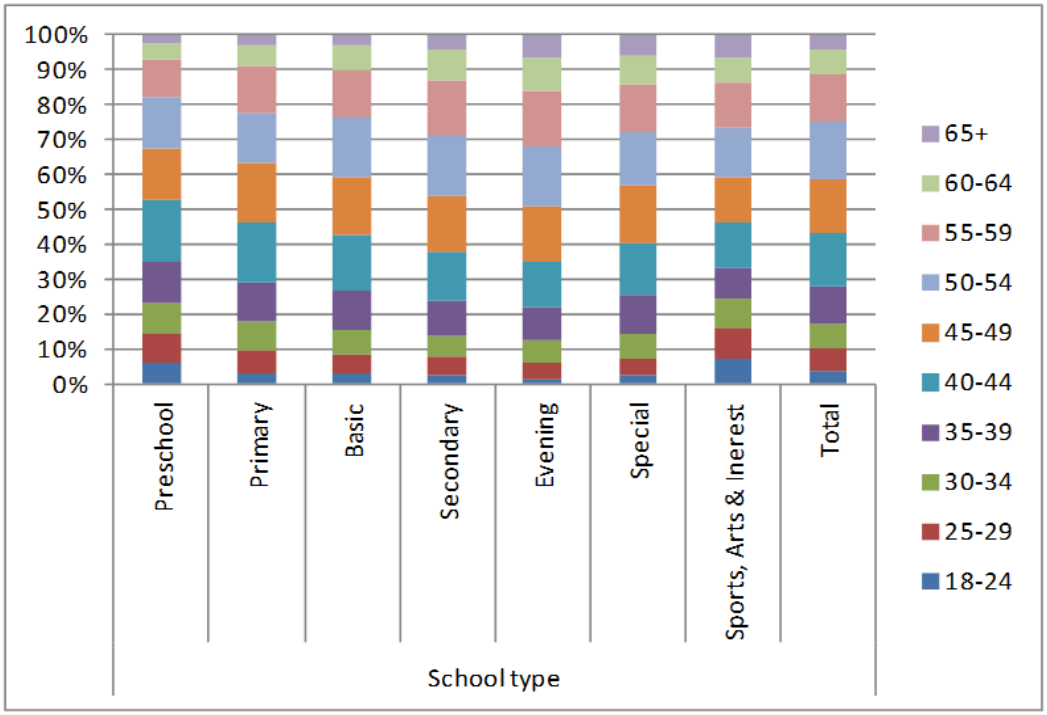
As far as school location is concerned, the largest shares of teachers below 40 years of age are found in Riga (29%) and in rural areas (24%) (see Figure A1.11). On the other hand, Riga features also the highest share of teachers in retirement or pre-retirement age (15.6%), while elsewhere it is, on average, 10.8% (Table A2.17).

In schools with Latvian as instruction language teachers younger than 40 years account for 26% of staff, while those age 60 years or older account for 11%. By contrast, these shares are 20% and 17%, respectively, in schools with instruction in Russian (see Figure A1.11 and Table A2.17). Thus, the staff of Russian-language schools is substantially older.

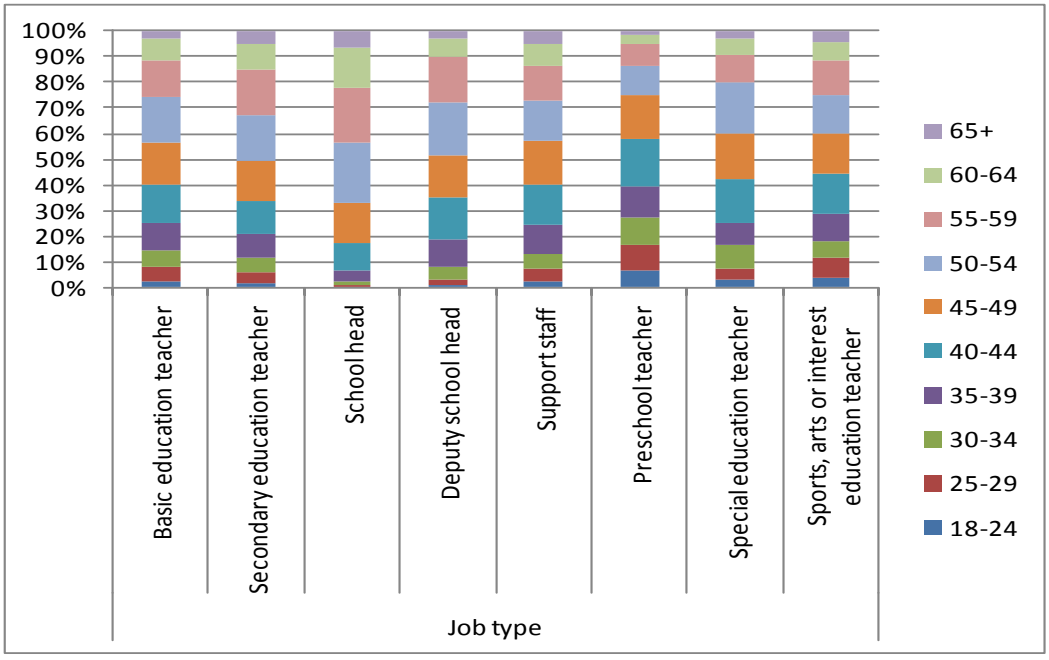
The largest shares (above 30%) of teachers with less than 15 years of experience are found in Riga and in rural schools, in primary and basic schools, as well as in schools with instruction in minority languages other than Russian (Figure A1.12).

Figure A1.10. Teacher age distribution, February 2014

By school type (all schools)



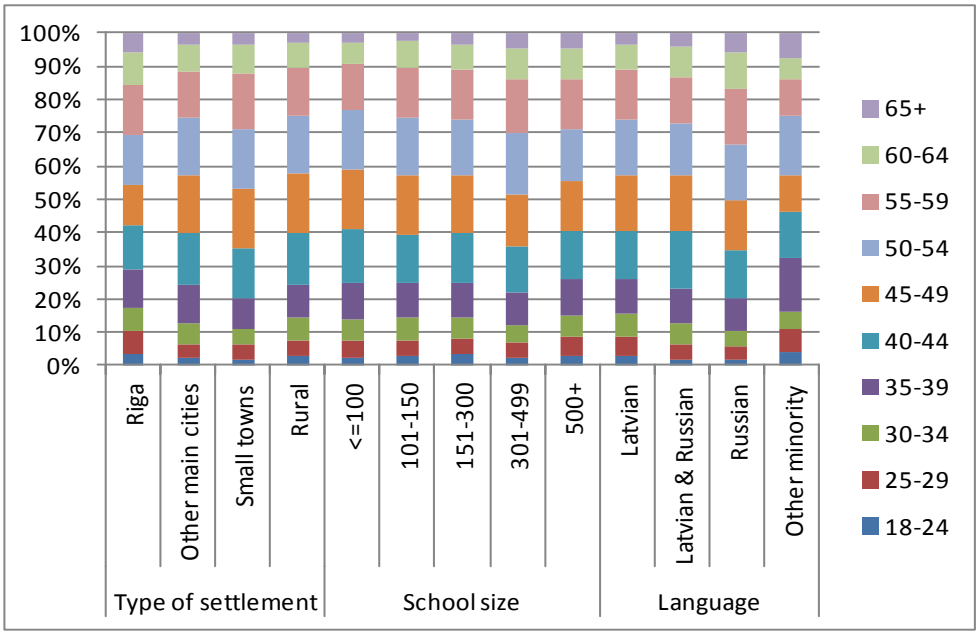
By job type (general education schools)



Note: "Teachers" include classroom teachers, administrative and professional support staff

Source: Calculation with data from Tables A2.16 and A2.17.

Figure A1.11. Teacher age distribution, by type of settlement, school size and language of instruction. General education schools, February 2014

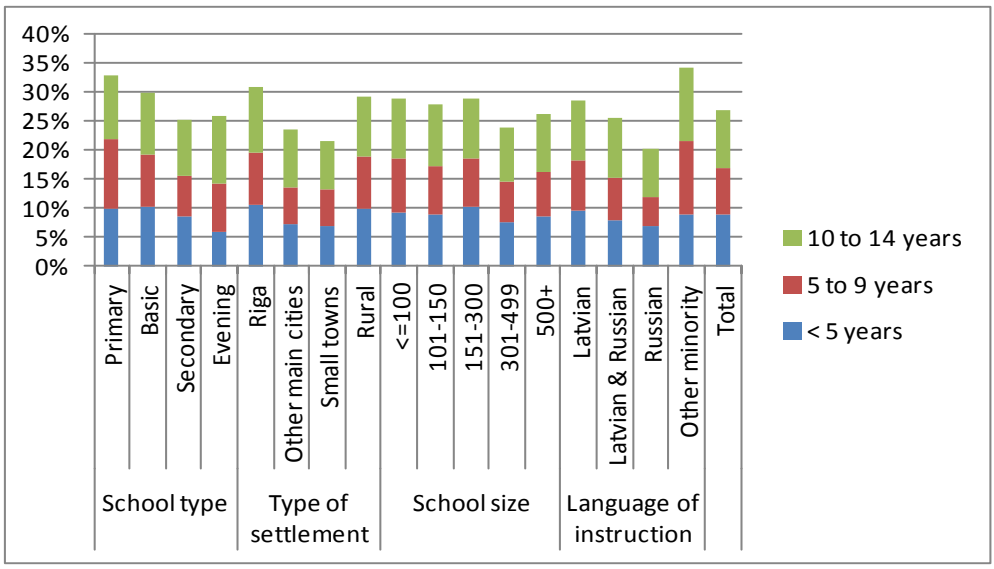


Notes: "Teachers" include classroom teachers, administrative and professional support staff.

Source: Calculation with data from Table A2.17.

Figure A1.12. Proportion of general school teachers with less than 15 years of experience, by school type, type of settlement, school size and language of instruction

General education schools, February 2014



Note: "Teachers" include classroom teachers, administrative and professional support staff.

Source: Calculation with data from Tables A2.18 and A2.19.

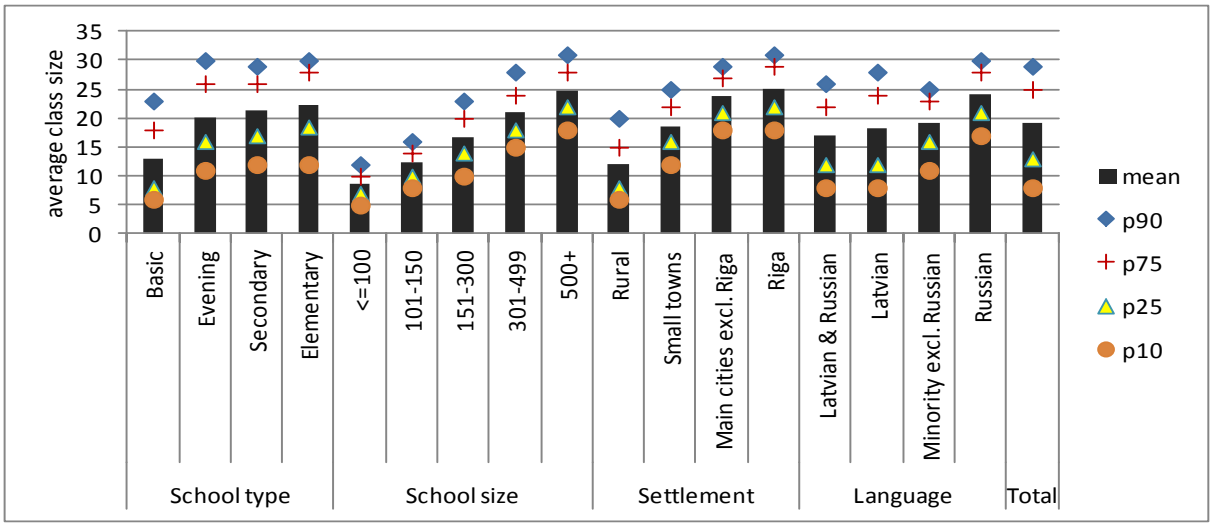
Class size and student-teacher ratio

As summarised in Figure A1.13, in February 2014 the average class size in Latvia was 19 students[5]. Average class sizes are considerably larger in primary, secondary and evening schools (23, 22 and 21 students, respectively) than in basic schools (13 students).

As teacher salaries are funded according to the "money follows student" principle, larger schools tend to create bigger classes to benefit from the economies of scale. In schools with at least 500 students there are, on average, 25 students per class, or two times more than in schools with up to 100 students and almost three times more than in schools with 101-150 students. Consistently with the school size pattern (see Figure 1 above), classes are on average larger in Riga and other main cities (25 and 24 students, respectively) than in small towns (about 19 students) and rural settlements (12 students). Likewise, the average class in Russian-language schools (24 students) is larger than in other minority schools, Latvian-language schools and two-track (Latvian/Russian) schools with 19, 18 and 17 students, respectively (Figure A1.13).

Figure A.13. Distribution of class teacher positions in general education schools by class size

By school type, size and language, and by type of settlement, February 2014



Notes: Classroom teachers are those teaching some subjects (whether or not it is their main job in the given school). Private schools, boarding schools and special schools excluded. The class size for each position (teacher-school) is average across all classes for the given teacher in the given school, weighted by contact hours. School size excludes preschool students, if any.

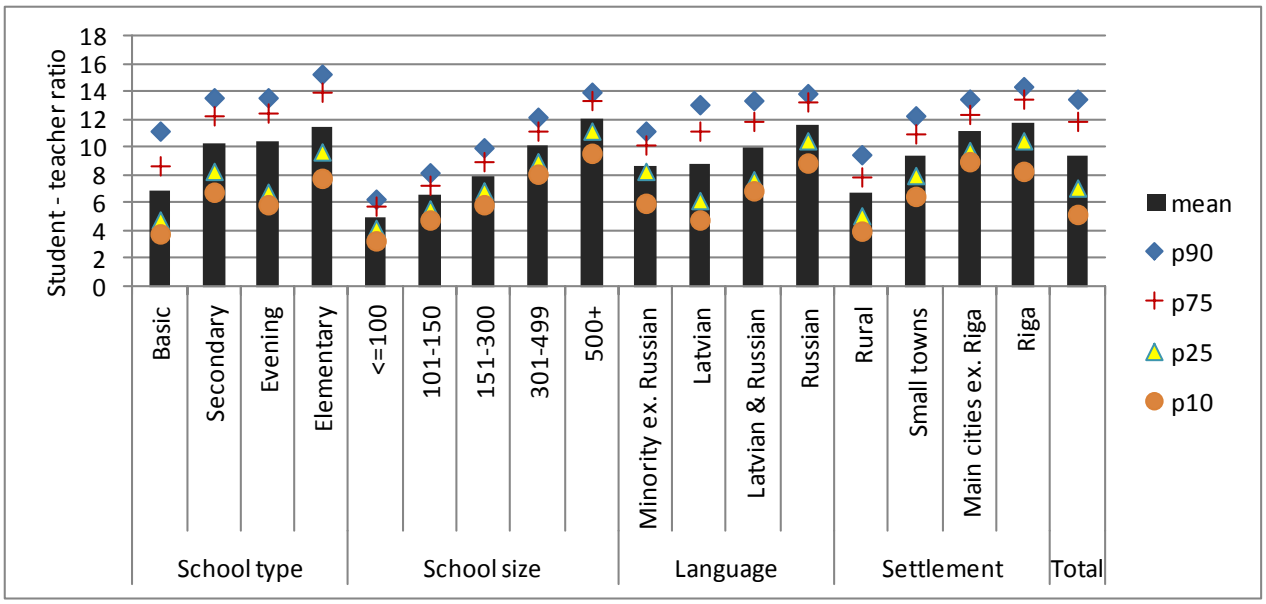
Source: Calculation with data from Table A2.20.

As shown in Figure A1.13, the same patterns as described above for the average class size broadly hold also for the lower and upper part of the distribution. It is worth noticing, however, that rural schools and schools in small towns feature much stronger variation in class size than other categories; this points to a substantial potential for increasing the average class size in schools located outside the main cities.

Figure A1.14 presents the distribution of classroom teacher positions in general education schools by schools' gross student-teacher ratio (gross S/T). When calculating the ratio, we take into account all teachers teaching subjects in the given school (whether or not their main job is in the given school), including those working part-time and/or working in more than one school. The number of teachers is derived directly from administrative data on teacher compensation (payroll data)[6]. In February 2014, there were, on average, 9.4 students per (occupied) classroom teacher post. Only 25% of teacher positions are found in schools with a gross S/T above 12, while another 25% work in schools with a gross S/T lower than 7.1.

Figure A1.14. Distribution of classroom teachers in general education schools by the school's gross student-teacher ratio

By school type, size and language, and by type of settlement, February 2014



Notes: Classroom teachers are those teaching some subjects (whether or not it is their main job in the given school), including those working part-time and/or working in more than one school. Private schools, boarding schools and special schools excluded. Gross student-teacher ratio is the ratio of the number of students (excl. preschool students, if any) to the number of classroom teachers. School size excludes preschool students, if any.

Source: Calculation with data from Table A2.21.

Similar to the average class size (Figure A1.13), the strongest variation in gross S/T is found in rural schools and schools located in the small towns, as well as in evening schools. On average, it tends to increase with school size (from 5.0 in schools with ≤ 100 students to 12.1 in schools with 500 and more students) and with population density (from 6.7 in rural schools to 11.8 in Riga). The average gross S/T is below 7 in basic schools, exceeds 10 in secondary and evening schools and reaches 11.5 in primary schools.

There is one interesting exception to the congruency between class size and gross S/T: two-track schools (with instruction in Latvian and Russian languages) manage to maintain an average student-

teacher ratio that exceeds that in Latvian-medium schools, despite the fact that average class size in two-track schools is smaller than in schools with Latvian or Russian as instruction language.

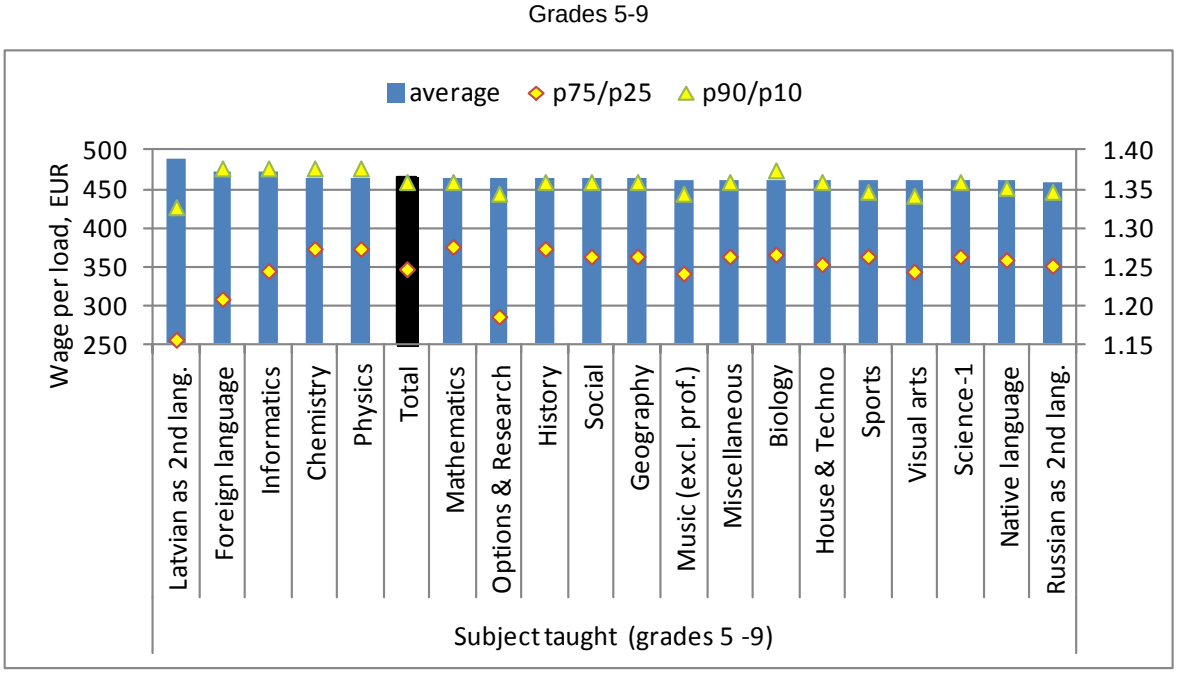
Wage rates by subject taught

Average wage rates of classroom teachers in general education schools by subject taught are presented in Figure A1.15 along with measures of variation of these rates (percentile ratios p75:p25 and p90:p10) within subjects. Both at the lower secondary (grades 5-9) and upper secondary level (grades 10-12), teachers of Latvian as a second language enjoy the highest average rates (EUR 488 and 500, respectively), but these are just 5% (respectively, 2%) above the overall average at the given level.

In grades 5-9, teachers of foreign languages and informatics have wage rates 2% higher than the overall average, while wage rates paid to teachers of other subjects are either at the overall average level or by 1% lower. One can conclude that at the lower secondary level the variation of average wage rates *across subjects* is small. It is even smaller at the upper secondary level, where for all subjects (except for Latvian as a second language) average wage rates are in a narrow range from 1% above to 1% below the overall average (EUR 496 to EUR 485), music being the only exception at 3% below average.

By contrast, wage rate variation *within most subjects* is substantial: for instance, at the lower secondary level, middle-high wage rates exceed middle-low ones by about 25% within all subjects except for Latvian as a second language and foreign languages, where this gap is 15% and 20%, respectively; furthermore, within every subject very high wage rates exceed very low ones by about 35% (Figure A1.15).

Figure A1.15. Classroom teachers' wage per load: average by subject taught and percentile ratios within subject taught, general schools (excl. private, boarding and special), February 2014



Notes: The Figure presents un-weighted means and percentiles based on teacher-task specific payroll records.

Source: Calculation with data from Table A2.22.

Teacher pay, working hours and distribution of duties

The issue of distribution of compensated hours is important for several reasons. First, one of the likely results of the teacher pay reform in Latvia is switching (either immediate or in the medium term) to a fixed salary for a working week with a fixed number of either total working hours or contact hours. Microdata evidence on how different teacher groups are distributed by total working hours and by contact hours helps to understand the likely effects of the reform on teacher employment and earnings, assuming no change (or a modest increase) in the budget spending on teacher salaries, as well as the fiscal effects of the reform assuming no substantial changes in employment and/or no earning cuts.

On the other hand, the abovementioned empirical evidence, together with the results of TALIS (OECD, 2014a) can be used to assess the concerns of teacher unions that a substantial part of "additional duties" may not be compensated.

The current regulation of budgeting teacher salaries (see Table 4.1 in the main text) envisages that once the number of compensated teacher workloads is determined for each municipality, it is multiplied by the minimum salary, by 1.15 (for administrative tasks and support staff) and by 1.40 (for "additional duties", such as preparation of lessons, paperwork correction, consultation and supervision). In theory, the ratio of the total number of compensated hours to the number of teaching (contact) hours for classroom teachers should thus be 1.40 (while the ratio of non-contact to contact

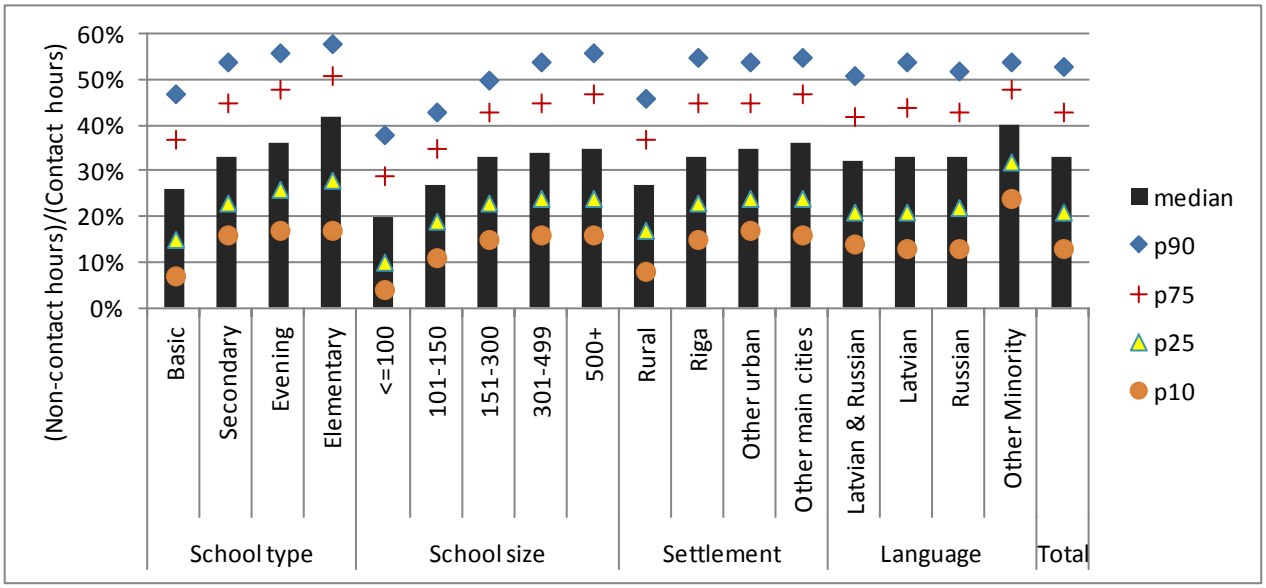
hours should be 0.40). It is important to understand, however, that the part of the state budget destined to additional duties is earmarked neither at the individual teacher level nor at the school level: the total budget is transferred to municipalities and further redistributed both between and within schools. It can be used for additional duties or, for instance, to increase wage rates.

As shown in Figure A1.16 (see Table A2.24 for details), the median ratio of compensated non-contact hours to contact hours among classroom teachers with full contact workload (≥ 21 hours per week) is 0.33, with substantial variation: while for the top 25% of teachers this ratio exceeds 0.43, it is just 0.21 or less for the bottom 25%. Moreover, for 10% of teachers the number of hours compensated for additional duties accounts for at least half of the number of contact hours. This is the case not only among all teachers, but also in schools with more than 150 students, in urban schools, in secondary, primary and evening schools.

The school categories where the median (or typical) ratio of compensated non-contact hours to contact hours is much smaller than elsewhere include: (i) schools with up to 150 students (the ratio is 0.20 for schools with up to 100 students and 0.27 for schools with 101-150 students); (ii) basic schools (0.26); and (iii) rural schools (0.27)[7]. On the other hand, in primary schools this median ratio exceeds 0.40. The same patterns are found with respect to the ratio of average non-contact workload to average contact workload of teachers with full contact workload (Figure A1.17, bottom). When all classroom teachers are considered (Figure A1.17, top), the only difference is that the most generous allocation of hours for additional duties (39% of contact hours) is found in evening schools; primary schools (37% of contact hours) are second but also well above the average of 32%.

As also shown in Figures A1.16 and A1.17, there is little difference between Latvian-language, Russian-language and two-track schools in terms of allocation of hours for additional duties, while this allocation is more generous in non-Russian minority schools (a small group of eight schools with 235 teachers). A detailed breakdown of compensated non-contact teaching-related hours by task is available in Tables A2.25 and A2.26 (for all classroom teachers and for teachers with full contact workload, respectively).

Figure A1.16. Distribution of full-time classroom teachers in general education schools by the ratio of compensated non-contact teaching-related hours to contact hours, February 2014



Notes: Only teachers with full teaching workload (≥ 21 contact hours) in the given school included. Private, boarding and special schools excluded. The ratio *r* shown in this Figure is related to the total - contact hours ratio *R* displayed in Figure 17 below as $r = R - 1$.

Source: Calculation with data from Table A2.24.

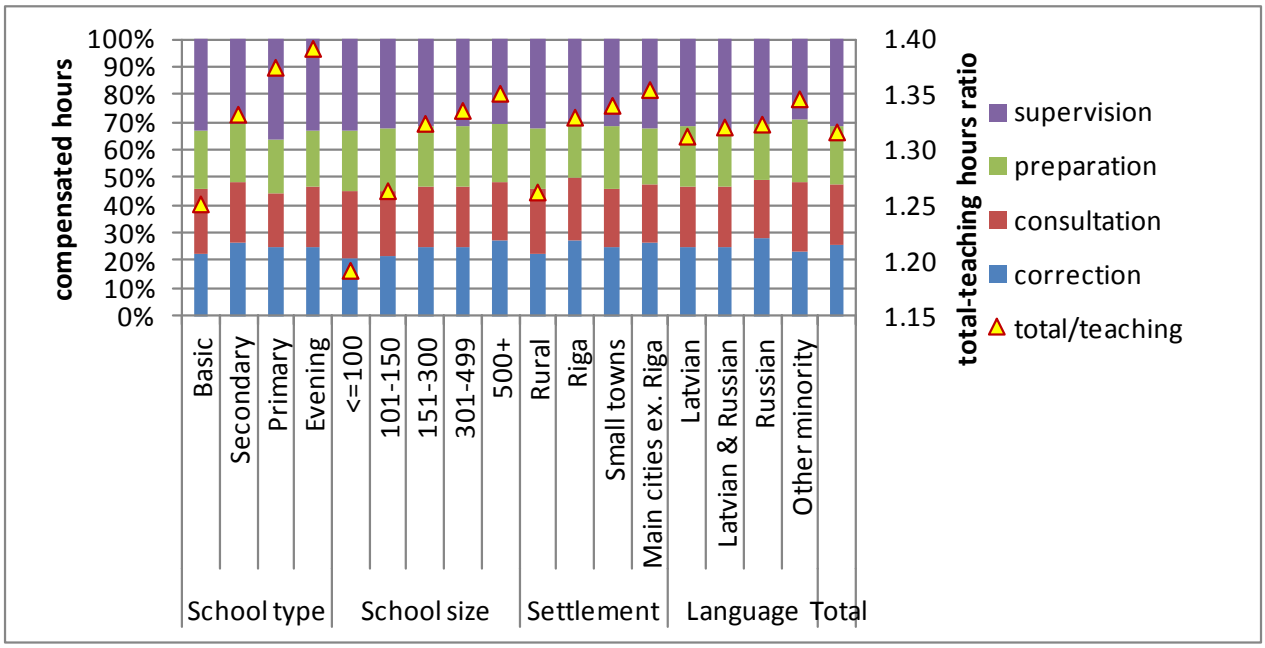
On average, classroom teachers are paid (from the main state grant) for 23.73 teaching-related hours (or 1.13 workloads), including 18.03 contact hours and 5.70 hours for additional duties (Table A2.25). Teachers with a full contact workload (at least 21 contact hours) in the given school are, on average, paid for 34.25 teaching-related hours, including 25.93 contact hours and 8.32 hours for additional duties[8]. This group accounts for 42.8% of all classroom teacher positions in general education schools (excl. special, private and boarding schools). The remaining 57.2% of teachers are paid, on average, for 15.84 teaching-related hours, including 12.12 contact hours and 3.72 hours for additional duties (Table A2.25).

On average and within most categories of teachers defined by school type or size, instruction language or type of settlement, about one-third of hours allocated for additional duties is spent on class supervision, about one-fourth on correction (marking), while consultation (student counselling) and preparation (lesson planning) account for slightly more than one-fifth each (Figure A1.17). The share of correction is slightly smaller, but shares of consultation and/or supervision are larger in basic schools, in schools with up to 150 students and in rural schools.

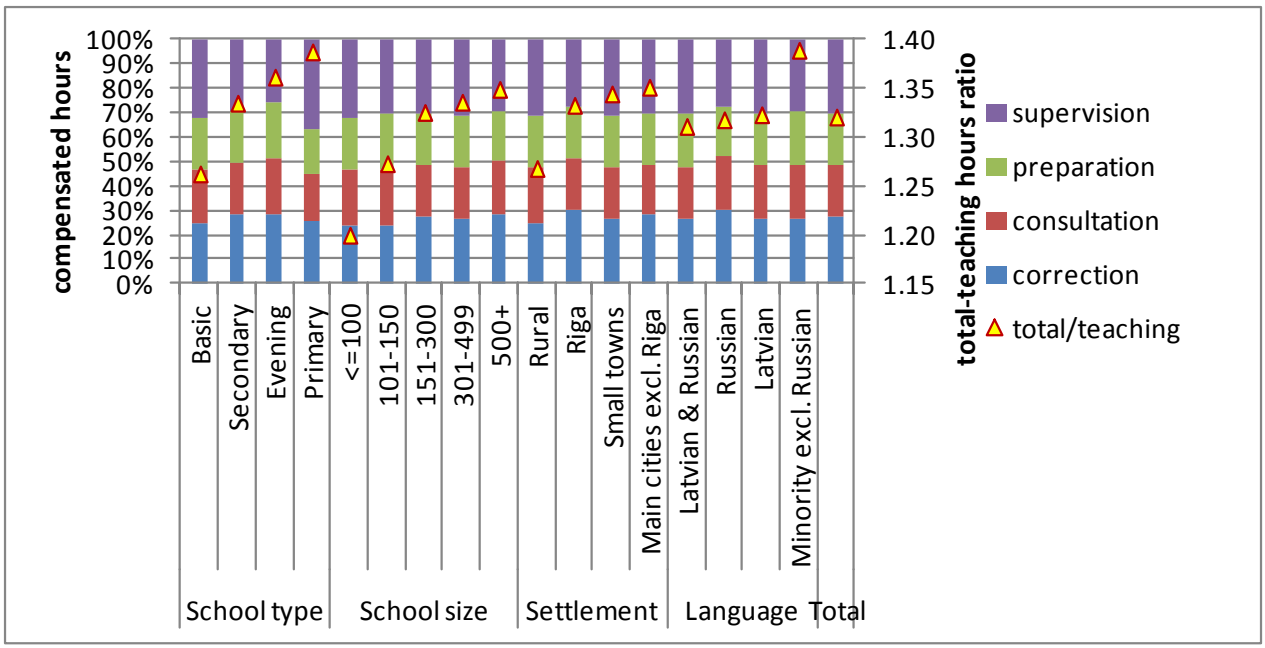
Figure A1.17. Breakdown of classroom teachers' average compensated teaching-related non-contact hours by task and the ratio of total teaching-related hours to teaching (contact) hours

General education schools by type, size, location and instruction language, February 2014

All classroom teachers



Teachers with ≥ 21 contact hours in the given school.



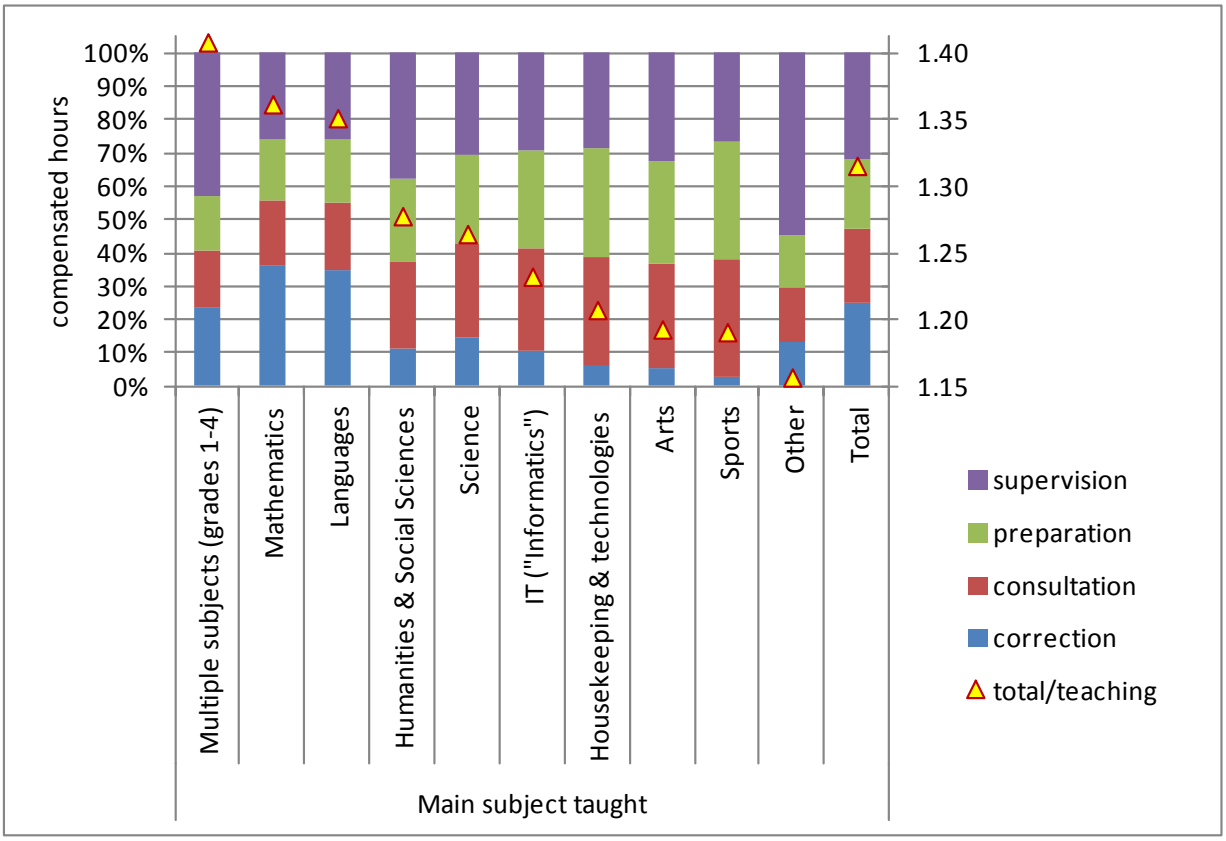
Notes: Private, boarding and special schools excluded.

Source: Calculation with data from Tables A2.25 and A2.26.

Figure A1.18 and Table A2.27 present the same information depending on the main subject taught (by the given teacher in the given school). Here, the main subject is defined as the one which has the largest number of teaching-related hours. Subjects are clustered into ten groups.

Figure A1.18. Breakdown of classroom teachers' average compensated teaching-related non-contact hours by task and the ratio of total teaching-related hours to teaching (contact) hours

Teachers of general education schools, by main subject taught, February 2014



Notes: Private, boarding and special schools excluded.

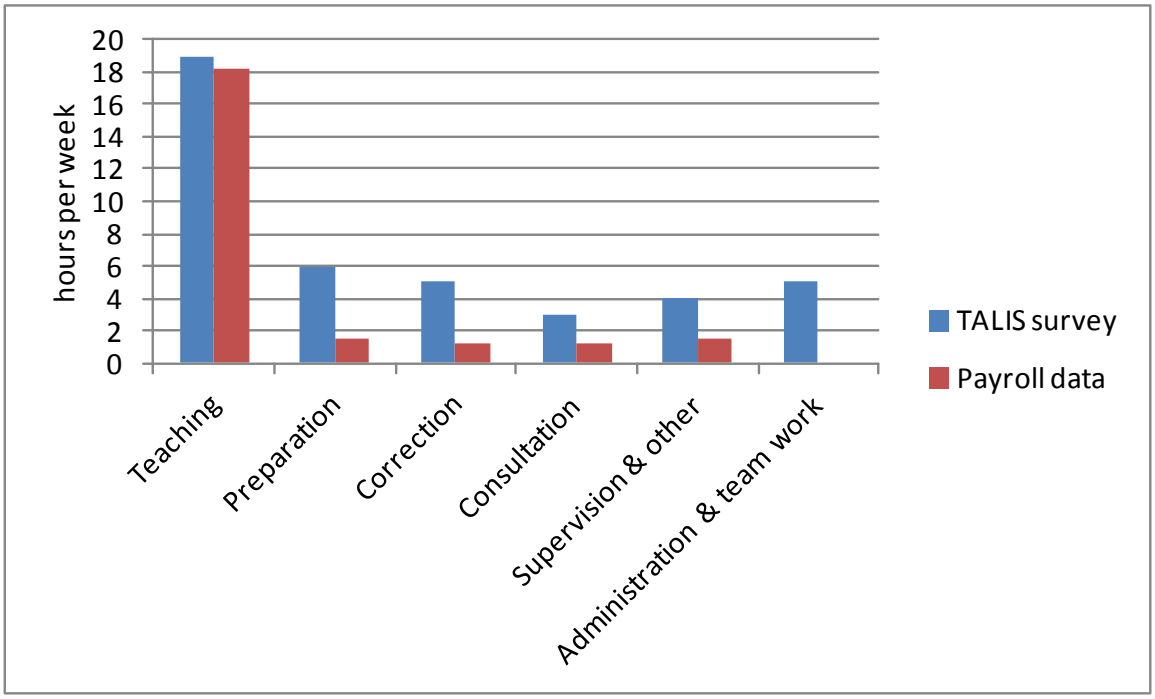
Source: Calculation with data from Table A2.27.

As displayed in Figure A1.18, the subject taught has a strong impact on the average number of contact hours, on the allocation of additional hours, and on the distribution of these hours by task. Teachers who work mainly in grades 1 to 4 and teach several different subjects (including both mathematics and language) are paid, on average, for 21.2 contact hours (*i.e.* one full contact workload), and 8.7 additional hours, which accounts for 41% of contact hours. Teachers specialising in mathematics or languages are paid, on average, for 20 to 21 contact hours and 7.0 to 7.6 additional hours, so that additional duties account for 35% to 36% of contact hours. Teachers of humanities, and social and natural sciences are paid less contact hours(14.6 and 16.9 respectively) and 4.0 to 4.5 additional hours, which implies a ratio of compensated non-contact hours to contact hours between 1.28 and 1.26. This ratio is much lower for teachers of informatics (0.23), housekeeping and

technologies (0.21), arts, and sports (0.19) who provide, on average, 13.4 to 18.7 contact hours per week.

It is instructive to compare the amount and distribution of compensated hours for additional duties with the actual hours devoted to these duties reported by teachers on TALIS 2013 (OECD, 2014a). Figure A1.19 shows the comparative results. We included teacher compensation from all sources (rather than just the main state grant), excluded teachers whose main job in the given school is not teaching and restricted the sample to those who provide most of their contact hours in lower secondary education (grades 5 to 9).

Figure A1.19. Average compensated teaching-related hours by task for classroom teachers working mainly in grades 5 to 9



More than 2 000 teachers surveyed in TALIS 2013 reported, on average, 19 contact hours per week. Payroll data restricted to a subset similar to the TALIS sample yields a similar result of 18.15 contact hours. However, while in the survey teachers reported working 23 hours per week on top of contact hours, the actual number of hours compensated for additional duties is just 5.54. Self-reported time spent on preparation of lessons and correction of student work is almost four times larger than time compensated for these tasks; for consultation and supervision this ratio is about 2.5.

Determinants of teacher earnings

Results of econometric analysis of teacher earnings are presented in Table A2.28. We analyse school- and teacher-level determinants of teacher pay using mixed linear models with municipality-

and school-level random effects[9]. The models are broadly similar to those estimated in Hazans (2010). There are, however, some differences. First, here we take into account only earnings from the main state grant for teacher salaries. Second, all models include only teachers with at least one full workload financed from the main state grant in the given school. Third, we apply a more accurate method of calculating class size (see Notes to Table A2.28 for details). Fourth, some of the models control for the results of the recent assessment of teacher performance. Finally, we use a slightly more aggregated classification of subjects taught (10 categories instead of 16).

Models (1) -(3) analyse total monthly earnings in the given school, while models (4) and (5) look at earnings per workload [10]. All models are based on full-coverage payroll data of February 2014; the sample includes 10 636 observations of full-time classroom teachers in general education schools (teachers whose main job in the school is not teaching were excluded).

We find positive and strongly significant effects of the gross student-teacher ratio (gross S/T hereafter) and school average class size on both earnings per workload and monthly earnings[11]. When class size (which positively correlates with gross S/T) is not controlled for, a unit increase in gross S/T raises earnings per workload by 2% and monthly earnings by 4%, other things equal. When class size is controlled for, the effect of gross S/T is roughly by one percentage point smaller. On the other hand, a unit increase in school average class size (other things, including gross S/T, equal) pushes up pay per workload by 0.6% and monthly earnings by 0.8%[12]. Note that the effect of teacher-specific (rather than school average) class size on monthly earnings is just half as strong; moreover, teacher-specific class size does not have a significant effect on earnings per workload.

Other things equal, working in a school with a larger share of upper secondary students (grades 10-12) results in higher monthly earnings: an increase by 10 percentage points in this share increases monthly earnings by 1.3% if class size is controlled for (1.9% if class size is not controlled for). A similar effect on earnings per workload is, however, just half as strong and works only through class size (it disappears when class size is controlled for).

The share of students in evening (shift) or distance education programmes also has a positive effect on teacher earnings; in other words, such students are more profitable for teachers than students of grades 5-9 (as well as 1-4) of regular programmes. A teacher working in an evening school (where the abovementioned share is 100%) earns 7% to 8% more per workload and about 10% more per month than a teacher in a basic school, other things equal[13]. The comparison between an evening and a secondary school depends on the share of grades 10-12 in the latter; however, teachers in a mainstream secondary school which also runs an evening programme earn more than their otherwise similar colleagues in a secondary school with the same grade composition of day students but without an evening programme.

Teachers in general education schools with special needs students or classes (respectively, specialised professionally oriented programmes) earn, on average, 1.0% (respectively, 1.9%) more per workload and 2.4% (respectively, 4.5%) more per month than teachers in schools without such students or programmes, other things equal. However, in schools with the largest shares of students with special needs (respectively, in specialised programmes) earnings per workload are 9.5% (respectively, 3.1%) higher, while monthly earnings are 23.7% (respectively, 7.1%) higher than in schools without such students or programmes, other things equal[14].

Teachers working in schools with state gymnasia status earn (both per workload and per month) about 12% more than otherwise similar teachers in other schools (this is explained by the special coefficient for state gymnasia which the review suggests to remove).

While no statistically significant differences in teacher earnings are found between rural areas, small towns and Riga, teachers in schools located in main cities (excl. Riga) earn 4% per workload and 10% less per month than their counterparts in small towns, other things equal. Given that both student/teacher ratio and class size are among the factors whose impact is controlled for in the models, there seems to be no rational justification for such differences, which may necessitate a revision of the parameters in the funding formula.

Municipalities with a very low density of students in general education schools (0.5 students per square kilometre or less) benefit from a 30% increase in the funding formula. As a result, teachers in these municipalities earn about 7% per month more than elsewhere, other things equal.

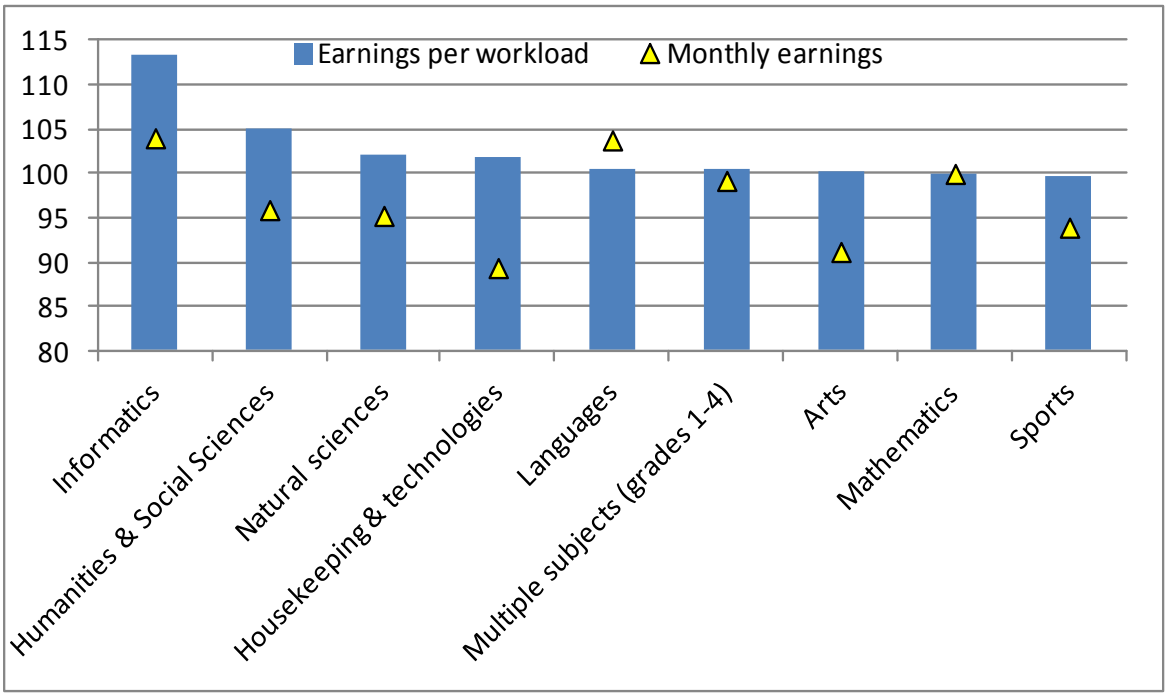
Compared to teachers in schools with instruction in Latvian language, teachers in schools with instruction in Russian earn at least 2% less per workload and 4% to 5% less per month, other things equal.

Concerning individual teacher characteristics, and while teacher experience and job tenure are hardly taken into account in the parameters and rules of the current remuneration system, they do have a substantial impact on earnings. We use models (2) and (4), which do not control for tenure and for the outcomes of teacher performance assessment (factors which strongly correlate with experience and, in other models, absorb part of its effect on earnings), to examine the total effect of experience. Other things equal, teachers with at least 15 years of experience earn, on average, 12% more per workload and 21% more per month than their counterparts with less than five years of experience. These experience premiums narrow down to 9% and 13%, respectively, when both job tenure and assessment outcomes are controlled for (models (1) and (5)). On top of this, teachers with a tenure of five years or more earn, on average, 1.5% more per workload and 5% more per month than their colleagues with shorter tenures, other things (including experience) equal.

Other things equal, teachers whose workload is mainly concentrated at the upper secondary level (grades 10-12) earn about 3% more per workload and 2% to 3% more per month than teachers with the largest share of workload in grades 5-9. On the other hand, teachers who work mostly (or only) in grades 1-4 earn 3% to 4% less per month compared to those focussing on grades 5-9, although they do not differ in terms of earnings per workload.

Earnings effects of subjects taught are presented in Figure A1.20. Subjects are clustered into 9 groups consisting either of a single subject or of several subjects belonging to the same field. The Figure features relative state-funded salaries per workload and monthly earnings after controlling for school and teacher characteristics (listed in models (1) and (5) of Table A2.28), assuming that earnings of mathematics teachers equal 100.

Figure A1.20. Relative state-funded earnings per workload and per month of classroom teachers in general education schools, after controlling for school and teacher characteristics. February 2014



Notes: Private, boarding and special schools excluded. Teachers whose main job in the school is not teaching excluded. Only earnings from the main state grant are accounted for. Only teachers with at least one full workload financed from the main state grant in the given school are included. See Table A2.28 (models (1) and (5)) for the list of controlled characteristics. For teachers of humanities and social sciences, informatics, natural sciences, and housekeeping and technologies, both earnings per workload and monthly earnings are significantly (at 1% level) different from those of mathematics teachers. Moreover, monthly earnings of sports and arts teachers are also significantly (at 1% level) lower than those of mathematics teachers, although earnings per workload do not differ significantly across these groups.

Source: own calculations with administrative data.

As far as earnings per workload are concerned, differences between most subjects do not exceed 2%; substantially higher salaries (other things equal) are paid to teachers of informatics (13% above mathematics), and humanities and social sciences[15] (5% above mathematics). Both these groups are relatively small (2% and 6% of all fulltime classroom teachers respectively). The picture is more diverse in terms of total monthly earnings, where four groups of subjects emerge (other things equal):

(i) Teachers of informatics and languages earn 4% more than teachers of mathematics;

(ii) Primary school teachers giving classes in multiple subjects earn as much as mathematics teachers;

(iii) Teachers of humanities and social sciences, natural sciences and sports earn 4% to 6% less than mathematics teachers;

(iv) Teachers of arts, and housekeeping and technologies earn, respectively, 9% and 11% less than mathematics teachers.

Informatics teachers may earn more because they have more employment possibilities outside schools than other teachers.

Classroom teachers working in more than one school are paid, on average, 2% to 3% less per workload and about 11% less per month than their full-time counterparts working in just one school[16], other things equal.

Teachers providing classes in more than one subject (in the given school) are paid, on average, 1% to 3% less per workload but nevertheless earn 2% to 3% per month more than their colleagues specialising in a single subject.[17]

As for the earnings effects of teacher performance assessment outcomes (see above), according to government regulation, there should be a causal effect of the assessment outcomes on additional monthly payments and therefore on teacher total monthly earnings. If school heads also take into account assessment outcomes when setting the per-workload wage rates, there should be a causal effect of the assessment outcomes on wage rates, and therefore on earnings per workload and per month. On the other hand, if unobserved performance-related factors (effort, innovation, erudition, extracurricular activities, etc.) positively affect both wage rates and assessment outcomes, the estimated model coefficients will reflect also an indirect (non-causal) effect of assessment outcomes on earnings per workload and per month.

Our results indeed show that both earnings per workload and total monthly earnings increase steadily with the assigned assessment level: compared with the most common level 3, earnings per workload at levels 1 and 2 are 7% and 6 % lower (monthly earnings are 11% and 4% lower respectively), while at levels 4 and 5 earnings per workload are 12% and 17% higher (monthly earnings 15% and 21%) higher. The inclusion of teacher assessment outcome as an explanatory variable substantially increases the models' explanatory power: the log likelihood goes up by 20% in the monthly earnings model and by 6.7% in the earnings per workload model. These findings seem to support the assumption that assessment levels correctly reflect teacher performance.

On the other hand, teachers who, by February 2014, did not undergo the assessment procedure were paid 4% less per workload and 8% less per month than those at level 3, other things equal. Put differently, those not assessed were, on average, between levels 2 and 3 in terms of earnings per workload and between levels 1 and 2 in terms of monthly earnings.

NOTES

1 In Latvia, primary and lower secondary (*i.e.* basic) as well as upper secondary education are often offered within one school, called *vidusskola*; the term "secondary school" will be used throughout this Annex both for such combined schools and for those offering only upper secondary education or grades 7 to 12.

2 Medians here refer to teacher positions. For instance half of the teacher positions in secondary (respectively, basic) schools are in schools with less than 502 (respectively, 99) students.

3 Hereafter, municipalities refer to 9 main cities and 110 *novadi* (see Table A2.1c).

4 Note that "basic education teacher" here refers to job type rather than school type: such teachers are found in secondary, basic and primary schools.

5 As explained in the Notes to Figure A1.13, the average class size was calculated across teachers and weighted by the number of contact hours.

6 Note that this is just one of possible approaches to gross S/T. Alternatively, one can take the number of teachers from schools' statistical reports (the results differ for some schools but on average, the difference in the S/T is less than 0.5); take into account only teachers at the main job (in a legal sense or in terms of the largest workload); exclude school heads, deputy heads and support staff members who teach less than half of their working time; exclude teachers working part-time, etc.

7 These three categories strongly overlap.

8 This might be viewed as an indication that a 36-hour working week may be appropriate for Latvian teachers, but such an impression might be misleading as 34.25 hours account for 1.63 current full workloads.

9 See *e.g.* Rabe-Hesketh and Skrondal (2005), and Greene (2008).

10 Earnings per workload are defined as total monthly earnings (including additional payments of all kinds) divided by the number of workloads (recall that only workloads and earnings funded by the main state grant are accounted for). Hence, for a teacher receiving some additional payments, earnings per workload exceed the wage rate (salary per workload).

11 These effects might be somewhat overestimated due to endogeneity, but as shown in Hazans (2010), the relative bias is likely negligible. S/T in our models is predetermined, being based on numbers of students and teachers which refer to October 2013.

12 These effects are larger than the ones found in Hazans (2010) which were based on 2010 data.

13 Our data refer to February 2014, before the coefficient for evening students was cut from 0.82 to 0.75.

14 These results are based on the respective coefficients from models (2) and (4) in Table A2.28 multiplied by the average and maximal shares of special needs students (5.3% and 52.5%) and students in specialised, professionally oriented programmes (62.8% and 100%) in general education schools where such students/programmes are present.

15 This group includes history, social knowledge, ethics and religion, culture, and introductory economics and business.

16 This finding is not at odds with the results presented in Figure A1.9 and Table A2.15 and discussed above, because those results refer to all teachers (rather than full-time classroom teachers) and earnings from all sources.

17 Native language and literature are considered one subject.

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ANNEX A2. TABLES – SCHOOL- AND TEACHER-LEVEL DATA ANALYSIS[1]

Table A2.1a. Staff of general education schools by type of the school and type of settlement, September 2013

(i) Individual teachers: Payroll data [a]

School type	Riga	Other main cities	Small towns	Rural	Total
Primary	132	374	308	245	1 059
Basic	626	455	805	4 161	6 047
Secondary	5 057	2 924	3 758	3 036	14 775
Evening (shift)	226	138	150	0	514
Total	6 041	3 891	5 021	7 442	22 395

(ii) Teacher positions: School statistical reports' data [b]

School type	Riga	Other main cities	Small towns	Rural	Total
Primary	162	429	394	301	1 286
Basic	828	508	941	5143	7 420
Secondary	5 831	3 258	4313	3554	16 956
Evening (shift)	274	212	270	41	797
Total	7 095	4 407	5 918	9039	26 459

Notes: [a] "Teachers" include classroom teachers, administrative and professional support staff. A teacher working in several education institutions is assigned to the one with the largest workload. Teachers whose largest workload is in preschools, special schools, sports and arts schools and interest education centres are not covered in Table A2.1a (i). [b] Statistical reports submitted by schools to the Ministry of Education and Science (MoES) are the source of official statistics published on the MoES website. In these data, a teacher working in several education institutions is accounted for several times. Unlike Table A2.1a (i), a teacher working in a general school appears in these data even if her largest workload is in a special, vocational, sports or arts school.

Table A2.1b. Staff of preschools and general education schools by school type and density of general education fulltime students in municipality, September 2013

	Student density per square kilometre: Percentiles and means					
School type	p10	p25	p50	p75	p90	mean
Preschool	1.1	2.3	97	201.4	201.4	96.6
Primary	1.3	1.6	14.5	116.3	201.4	64.1
Basic	0.7	1.0	1.6	3.5	201.4	29.1
Secondary	1.0	1.6	97	201.4	201.4	93.9
Evening	1.6	2.4	116.3	201.4	201.4	113.3
Total	0.9	1.4	12.2	201.4	201.4	81.2

Total excl. preschools	0.9	1.4	5.1	201.4	201.4	75.4

Notes: Data refer to distribution of teachers rather than students. "Teachers" include classroom teachers, administrative and professional support staff.

Table A2.1c. Density of full-time general school students and number of occupied classroom teacher positions in general education schools

	Students			Classroom teachers	
	Density per km^2	Number	Cum. %	Number	Cum. %
RUCAVAS NOVADS	0.27	119	0.1	22	0.1
KRUSTPILS NOVADS	0.35	285	0.2	55	0.4
VENTSPILS NOVADS	0.39	959	0.7	158	1.1
CIBLAS NOVADS	0.40	202	0.8	40	1.3
JĒKABPILS NOVADS	0.43	391	1.0	79	1.7
PĀVILOSTAS NOVADS	0.45	233	1.1	36	1.8
NERETAS NOVADS	0.47	300	1.3	45	2.0
BURTNIEKU NOVADS	0.47	330	1.5	61	2.3
RUGĀJU NOVADS	0.47	244	1.6	47	2.5
PĀRGAUJAS NOVADS	0.50	245	1.7	36	2.7
DUNDAGAS NOVADS	0.54	368	1.9	52	3.0
AMATAS NOVADS	0.55	390	2.1	101	3.4
APES NOVADS	0.56	307	2.3	61	3.7
VIESĪTES NOVADS	0.59	382	2.5	43	3.9
BALTINAVAS NOVADS	0.63	117	2.5	24	4.0
VĀRKAVAS NOVADS	0.64	183	2.6	32	4.2
DURBES NOVADS	0.66	212	2.8	35	4.4
RIEBIŅU NOVADS	0.67	419	3.0	86	4.8
JAUNJELGAVAS NOVADS	0.67	456	3.2	66	5.1
STRENČU NOVADS	0.69	259	3.3	36	5.2
LUBĀNAS NOVADS	0.69	241	3.5	51	5.5
NAUKŠĒNU NOVADS	0.70	197	3.6	32	5.6
MAZSALACAS NOVADS	0.72	300	3.7	36	5.8
NĪCAS NOVADS	0.73	257	3.9	43	6.0
BEVERĪNAS NOVADS	0.74	223	4.0	41	6.2
ALOJAS NOVADS	0.74	469	4.2	70	6.5
ALSUNGAS NOVADS	0.75	143	4.3	21	6.6
ĒRGĻU NOVADS	0.78	295	4.5	40	6.8
VECPIEBALGAS NOVADS	0.78	425	4.7	67	7.1
ĶEGUMA NOVADS	0.79	388	4.9	52	7.4
KĀRSAVAS NOVADS	0.80	501	5.1	65	7.7
DAGDAS NOVADS	0.83	787	5.6	111	8.2
AKNĪSTES NOVADS	0.84	240	5.7	39	8.4
DAUGAVPILS NOVADS	0.85	1594	6.5	260	9.6

VALKAS NOVADS	0.85	773	6.9	112	10.1
SKRUNDAS NOVADS	0.88	488	7.2	71	10.4
VIĻAKAS NOVADS	0.91	582	7.5	124	11.0

Table A2.1c. Density of full-time general school students and number of occupied classroom teacher positions in general education schools (continued)

	Students			Classroom teachers	
	Density per km^2	Number	Cum. %	Number	Cum. %
RĒZEKNES NOVADS	0.91	2 298	8.7	355	12.7
KOCĒNU NOVADS	0.94	471	8.9	76	13.1
AGLONAS NOVADS	0.97	382	9.1	100	13.5
ALŪKSNES NOVADS	0.98	1 670	10.0	284	14.9
VECUMNIEKU NOVADS	1.02	864	10.4	116	15.4
VAIŅODES NOVADS	1.04	319	10.6	51	15.6
RAUNAS NOVADS	1.05	323	10.8	70	16.0
SALACGRĪVAS NOVADS	1.06	674	11.1	80	16.3
PRIEKULES NOVADS	1.08	561	11.4	79	16.7
MADONAS NOVADS	1.11	2 396	12.7	360	18.4
GULBENES NOVADS	1.13	2 116	13.8	347	20.0
ILŪKSTES NOVADS	1.13	734	14.2	113	20.6
JAUNPILS NOVADS	1.16	243	14.3	24	20.7
BROCĒNU NOVADS	1.18	585	14.6	71	21.0
JAUNPIEBALGAS NOVADS	1.19	299	14.8	31	21.2
VARAKĻĀNU NOVADS	1.19	332	14.9	51	21.4
RUNDĀLES NOVADS	1.20	277	15.1	38	21.6
ZILUPES NOVADS	1.21	373	15.3	43	21.8
LĪGATNES NOVADS	1.23	206	15.4	28	21.9
PĻAVIŅU NOVADS	1.25	469	15.6	52	22.2
LIMBAŽU NOVADS	1.28	1 494	16.4	204	23.1
KRIMULDAS NOVADS	1.28	438	16.6	58	23.4
LUDZAS NOVADS	1.36	1 309	17.3	188	24.3
ROPAŽU NOVADS	1.36	441	17.5	50	24.5
AUCES NOVADS	1.38	711	17.9	66	24.8
KRĀSLAVAS NOVADS	1.38	1 485	18.7	218	25.8
SMILTENES NOVADS	1.38	1 307	19.4	163	26.6
BALVU NOVADS	1.38	1 445	20.1	232	27.7
TĒRVETES NOVADS	1.41	316	20.3	63	28.0
AIZPUTES NOVADS	1.43	915	20.8	172	28.8

RŪJIENAS NOVADS	1.44	507	21.0	70	29.1
KULDĪGAS NOVADS	1.45	2 544	22.4	303	30.5
SALAS NOVADS	1.49	473	22.6	65	30.8

Table A2.1c. Density of full-time general school students and number of occupied classroom teacher positions in general education schools (continued)

	Students			Classroom teachers	
	Density per km^2	Number	Cum. %	Number	Cum. %
MĒRSRAGA NOVADS	1.50	164	22.7	24	31.0
SĒJAS NOVADS	1.55	357	22.9	43	31.2
JELGAVAS NOVADS	1.57	2063	24.0	324	32.7
ENGURES NOVADS	1.62	641	24.3	70	33.0
TALSU NOVADS	1.62	2855	25.8	405	34.9
SALDUS NOVADS	1.64	2757	27.2	391	36.7
KANDAVAS NOVADS	1.69	1096	27.8	144	37.4
GROBIŅAS NOVADS	1.69	830	28.2	123	38.0
ROJAS NOVADS	1.72	346	28.4	37	38.2
LĪVĀNU NOVADS	1.86	1158	29.0	175	39.0
MĀLPILS NOVADS	1.93	427	29.3	57	39.3
CESVAINES NOVADS	1.98	376	29.5	58	39.5
KOKNESES NOVADS	2.00	722	29.8	94	40.0
VIĻĀNU NOVADS	2.06	592	30.1	77	40.3
PRIEKUĻU NOVADS	2.14	643	30.5	67	40.6
DOBELES NOVADS	2.28	2023	31.5	248	41.8
TUKUMA NOVADS	2.44	2909	33.1	318	43.3
GARKALNES NOVADS	2.61	396	33.3	65	43.6
PREIĻU NOVADS	2.80	1019	33.8	160	44.4
OZOLNIEKU NOVADS	2.87	820	34.2	99	44.8
IECAVAS NOVADS	3.06	955	34.7	138	45.5
BABĪTES NOVADS	3.12	759	35.1	64	45.8
BAUSKAS NOVADS	3.21	2524	36.4	321	47.3
CARNIKAVAS NOVADS	3.27	265	36.6	26	47.4
SKRĪVERU NOVADS	3.30	346	36.8	41	47.6
OGRES NOVADS	3.45	3420	38.5	342	49.2
BALDONES NOVADS	3.55	635	38.9	87	49.6
LIELVĀRDES NOVADS	4.56	1025	39.4	96	50.1
INČUKALNA NOVADS	4.79	537	39.7	59	50.3
OLAINES NOVADS	4.86	1449	40.4	108	50.8
SIGULDAS NOVADS	5.09	1838	41.4	167	51.6
ĶEKAVAS NOVADS	5.80	1594	42.2	149	52.3
IKŠĶILES NOVADS	6.66	873	42.7	66	52.6

ĀDAŽU NOVADS	7.97	1299	43.4	99	53.1
AIZKRAUKLES NOVADS	8.78	896	43.8	112	53.6
SALASPILS NOVADS	11.55	1421	44.6	113	54.2
SAULKRASTU NOVADS	12.17	584	44.9	53	54.4

Table A2.1c. Density of full-time general school students and number of occupied classroom teacher positions in general education schools (continued)

	Students		Classroom teachers		
	Density per km^2	Number	Cum. %	Number	Cum. %
CĒSU NOVADS	12.78	2 211	46.0	283	55.7
STOPIŅU NOVADS	14.04	744	46.4	60	56.0
MĀRUPES NOVADS	14.52	1 510	47.2	117	56.6
JŪRMALA	42.65	4 308	49.5	450	58.7
VENTSPILS	67.09	3 891	51.5	387	60.5
JĒKABPILS	83.42	2 587	52.9	255	61.7
JELGAVA	97.02	5 821	55.9	493	64.0
DAUGAVPILS	112.69	8 114	60.1	706	67.3
LIEPĀJA	116.25	7 905	64.3	699	70.6
VALMIERA	189.06	3 403	66.1	340	72.2
RĪGA	201.26	61 183	98.0	5 539	98.2
RĒZEKNE	209.11	3764	100.0	384	100.0
Total		19 1336		21 304	

Notes: Number of students and class teacher positions as of September 2013, according to [revised] schools' statistical reports data. Only fulltime students are accounted for. However, teacher positions in evening (shift) and correspondence schools are included. School staff members which do not teach some subject are not accounted for. Municipalities are sorted in increasing order of student density. Columns titled "Cum. %" present the share of students studying (respectively, classroom teachers working) in municipalities with student density not exceeding the given level.

Table A2.1d. Median school size for teachers of general education schools, by type of school, type of settlement and school instruction language, September 2013

School type	Secondary	502
	Primary	336
	Evening	317
	Basic	99
Type of settlement	Riga	657
	Other main cities	537
	Small towns	350
	Rural	115
Language of instruction (all schools)	Russian	619
	Latvian and Russian	463
	Minority excl. Russian	295
	Latvian	282
Language of instruction (schools in the main cities)	Russian	644

	Latvian and Russian	566
	Latvian	564
	minority	299
Total		605

Notes: Private, boarding and special schools excluded. School size excludes preschool students, if any.

Table A2.1e. Distribution of teacher positions by school instruction language, general education schools, by type of settlement, September 2013

Percentage

	Type of settlement				
Instruction language	Riga	Other main cities	Small towns	Rural	Total
Latvian	48.3	52.0	83.0	90.2	71.3
Latvian and Russian	8.0	13.5	13.1	7.9	10.1
Russian	42.1	32.5	3.6	1.8	17.8
Other minority	1.7	2.0	0.3	0.0	0.8
Total	100	100	100	100	100

Table A2.1f. Teachers by the number of education institutions they work in (%), by type of school, type of settlement, school size and language, February 2014

	Number of schools			
	1	2	3+	Total
Type of school with max workload				
Preschool	91.0	8.2	0.8	100
Primary	87.6	10.9	1.5	100
Basic	83.5	14.5	2.0	100
Secondary	86.9	11.5	1.6	100
Evening	80.2	18.4	1.4	100
Special	87.5	10.9	1.6	100
Sports and Arts schools; Interest	78.6	17.6	3.8	100
Type of settlement				
Riga	89.1	10.1	0.8	100
Main cities excl. Riga	89.1	9.6	1.4	100
Small towns	84.7	13.4	1.9	100
Rural	84.4	13.5	2.1	100
School size				
<=100	83.2	14.5	2.2	100
101-150	85.5	12.3	2.2	100
151-300	83.9	14.1	2.0	100
301-499	85.3	13.1	1.6	100
500+	90.2	8.7	1.1	100
Language of instruction				
Latvian	86.0	12.3	1.7	100
Latvian and Russian	88.4	10.3	1.2	100
Russian	91.9	7.4	0.7	100

Other minority	93.0	6.5	0.5	100
Total	87.2	11.4	1.5	100

Notes: "Teachers" include classroom teachers, administrative and professional support staff.

Table A2.2. Average number of workloads per teacher, by type of school, February 2014

Type of the "main school" [a]	Number of workloads						
	By financing:			By type:			In the "main school"
	Total	state (all)	state (main [b])	Teaching[c]	other	of which administrative	
Preschool	1.24	0.35	0.02	0.01	1.23	0.08	1.18
Primary	1.45	1.27	1.16	0.95	0.51	0.09	1.39
Basic	1.38	1.21	1.11	0.94	0.44	0.10	1.29
Secondary	1.44	1.33	1.28	1.11	0.33	0.09	1.36
Evening	1.36	1.28	1.27	1.11	0.25	0.12	1.24
Special	1.55	1.35	1.07	0.72	0.83	0.09	1.47
Sports, Arts or Interest education	1.42	0.87	0.10	0.06	1.36	0.09	1.26
Total	1.39	1.04	0.83	0.69	0.70	0.09	1.31

Notes: [a] With the maximal workload for the given teacher. [b] The earmarked state budget grant for teachers' salaries in general and professional schools. [c] Excl. interest education.

Table A2.3. Average number of workloads per teacher, by location, size and language of the main school, February 2014

		Financing		Type			In the "main school" [c]
	Total	state (all)	state (main [a])	Teaching [b]	other	of which administrative	
Location of the "main school" [c]							
Riga	1.41	1.20	1.18	1.07	0.34	0.09	1.35
Other main cities	1.43	1.38	1.34	1.16	0.27	0.09	1.36
Small towns	1.49	1.45	1.38	1.17	0.31	0.10	1.40
Rural	1.39	1.23	1.11	0.97	0.43	0.10	1.30
Size of the "main school" [c, d]							
<=100	1.32	1.13	1.00	0.89	0.43	0.10	1.23
101-150	1.40	1.25	1.13	0.98	0.42	0.10	1.31
151-300	1.38	1.25	1.15	0.98	0.40	0.10	1.29
301-499	1.48	1.39	1.34	1.15	0.32	0.10	1.39
>=500	1.46	1.34	1.32	1.16	0.30	0.08	1.40
Language of the "main school" [c]							
Latvian	1.43	1.3	1.22	1.06	0.37	0.10	1.34
Latvian and Russian	1.44	1.35	1.29	1.12	0.32	0.09	1.37
Russian	1.41	1.28	1.26	1.11	0.29	0.09	1.36
Other minority	1.29	1.11	1.06	0.9	0.39	0.10	1.25
Total	1.42	1.3	1.23	1.07	0.35	0.09	1.35

Notes: [a] The earmarked state budget grant for teachers' salaries in general and professional schools. [b] Excl. interest education. [c] With the maximal workload for the given teacher. [d] School size excludes preschool students, if any. Excluded: Teachers with main job in special schools, boarding schools, private schools, preschools, sports, arts and interest education institutions

Table A2.4. Average number of workloads per teacher, by main job, February 2014

		Financing		Type			In the "main" school
	Total	state (all)	state (main [a])	Teaching [b]	other	of which administrative	
Type of the job with the largest workload							
Basic education teacher	1.46	1.41	1.37	1.28	0.18	0.05	1.39
Secondary educ. teacher	1.48	1.45	1.43	1.35	0.13	0.07	1.40
School head	1.55	1.30	1.28	0.35	1.19	1.14	1.51
Deputy head	1.51	1.46	1.43	0.77	0.74	0.67	1.47
Support staff	1.34	1.13	1.10	0.75	0.60	0.02	1.28
Preschool	1.28	0.62	0.18	0.15	1.13	0.01	1.23
Special teacher	1.47	1.27	1.21	1.28	0.19	0.02	1.36
Interest educ., sports or arts teacher	1.29	1.06	0.90	0.81	0.48	0.04	1.17
Total	1.42	1.30	1.23	1.07	0.35	0.09	1.35

Notes: [a] Subsidy for general and professional schools. [b] Excl. interest education. Excluded: Teachers with main job in special schools, boarding schools, private schools, preschools

Tables A2.5. Percentiles and means of state-financed teachers' salary per workload, by type of school, February 2014

EUR

School type	Individual teachers: salary per workload in the "main" job							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Preschool	384	398	398	420	470	410	1.05	1.22
Primary	398	427	469	498	548	478	1.17	1.38
Basic	398	398	399	462	525	443	1.16	1.32
Secondary	398	432	481	526	569	498	1.22	1.43
Evening	462	477	515	569	691	553	1.19	1.50
Special	391	398	399	448	505	437	1.13	1.29
Sports, Arts or Interest education	384	398	398	424	470	408	1.06	1.22
Total	398	398	448	500	555	468	1.26	1.39
School type	Teachers' positions: salary per workload							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Preschool	384	398	398	420	477	409	1.05	1.24
Primary	398	427	465	489	541	474	1.15	1.36
Basic	398	398	398	454	510	438	1.14	1.28
Secondary	398	427	477	525	569	494	1.23	1.43
Evening	462	475	502	548	640	536	1.15	1.38
Special	391	398	399	448	498	436	1.13	1.27
Sports, Arts or Interest education	384	398	398	414	470	406	1.04	1.22
Total	398	398	441	498	548	463	1.25	1.38

Note: "Teachers" include classroom teachers, administrative and professional support staff.

Table A2.6. Percentiles and means of state-financed teachers' salary per workload, by type of job, February 2014

EUR

Job type	Individual teachers: salary per workload in the "main" job							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Basic education teacher	398	402	462	504	534	462	1.25	1.34
Secondary educ. teacher	406	448	484	526	555	487	1.17	1.37
School head	700	726	844	990	1120	876	1.36	1.60
Deputy head	548	599	733	900	1081	771	1.50	1.97
Support staff	398	402	452	491	548	462	1.22	1.38
Preschool teacher	280	392	398	430	470	397	1.10	1.68
Special teacher	384	398	450	502	533	449	1.26	1.39
Interest educ., sports or arts teacher	391	398	411	460	482	427	1.15	1.23
Total	398	427	470	520	569	492	1.22	1.43
	Teachers' positions: salary per workload							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Basic education teacher	398	398	458	498	529	458	1.25	1.33
Secondary educ. teacher	406	448	484	526	555	485	1.17	1.37
School head	700	723	844	989	1117	874	1.37	1.60
Deputy head	548	598	731	899	1081	768	1.50	1.97
Support staff	398	399	448	486	541	460	1.22	1.36
Preschool	280	391	398	430	470	395	1.10	1.68
Special teacher	384	398	450	502	533	448	1.26	1.39
Interest educ., sports or arts teacher	391	398	413	460	482	427	1.15	1.23
Total	398	420	470	519	563	487	1.24	1.41

Note: "Teachers" include classroom teachers, administrative and professional support staff. Excluded: special schools, boarding schools, private schools, preschools. Only state subsidy for general and professional schools is accounted for, while other state subsidies (for interest education, preschools, etc.) are excluded

Table A2.7. Percentiles and means of state-financed teachers' salary per workload, by school location, February 2014

EUR

School location	Individual teachers: salary per workload in the "main" job							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Riga	454	484	515	541	597	534	1.12	1.31
Other main cities	406	450	470	488	525	485	1.08	1.29
Small towns	399	427	480	520	583	499	1.22	1.46
Rural	398	398	413	470	555	453	1.18	1.39
Total	398	427	470	520	569	492	1.22	1.43
School location	Teachers' positions: salary per workload							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Riga	448	484	512	541	588	531	1.12	1.31
Other main cities	406	450	470	488	525	483	1.08	1.29
Small towns	399	427	477	520	569	494	1.22	1.43
Rural	398	398	404	462	548	447	1.16	1.38
Total	398	420	470	519	563	487	1.24	1.41

Note: "Teachers" include classroom teachers, administrative and professional support staff. Excluded: special schools, boarding schools, private schools. Only state subsidy for general and professional schools is accounted for, while other state subsidies (for interest education, preschools. etc) are excluded.

Table A2.8. Percentiles and means of state-financed teachers' salary per workload, by school size, February 2014

EUR

	Individual teachers: salary per workload in the "main" job							
School size	p10	p25	p50	p75	p90	mean	75:25	90:10
<=100	391	398	398	420	480	427	1.05	1.23
101-150	398	398	399	448	515	438	1.13	1.29
151-300	398	407	448	489	556	467	1.20	1.40
301-499	413	444	477	519	576	503	1.17	1.40
500+	439	470	504	539	586	524	1.15	1.34
Total	398	427	470	520	569	492	1.22	1.43
	Teachers' positions: salary per workload							
School size	p10	p25	p50	p75	p90	mean	75:25	90:10
<=100	391	398	398	413	480	422	1.04	1.23
101-150	398	398	399	448	498	436	1.13	1.25
151-300	398	410	448	484	541	464	1.18	1.36
301-499	413	445	477	515	574	500	1.16	1.39
500+	437	465	501	538	580	521	1.16	1.33
Total	398	420	470	519	563	487	1.24	1.41

Notes: "Teachers" include classroom teachers, administrative and professional support staff. School size excludes preschool students, if any. Excluded: special schools, boarding schools, private schools. Only state subsidy for general and professional schools is accounted for, while other state subsidies (for interest education, preschools. etc) are excluded.

Table A2.9. Percentiles and means of state-financed teacher salary per workload, by school language, February 2014

EUR

School language	Individual teachers: salary per workload in the "main" job							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Latvian	398	418	470	519	569	488	1.24	1.43
Latvian & Russian	398	410	464	527	610	495	1.29	1.53
Russian	413	455	488	528	569	507	1.16	1.38
Other minority	398	406	419	455	565	460	1.12	1.42
Total	398	427	470	520	569	492	1.22	1.43

School language	Teachers' positions: salary per workload							
	p10	p25	p50	p75	p90	mean	75:25	90:10
Latvian	398	413	470	512	559	482	1.24	1.40
Latvian & Russian	398	399	463	524	610	491	1.31	1.53
Russian	413	455	486	526	569	504	1.16	1.38
Other minority	398	406	430	455	561	455	1.12	1.41
Total	398	420	470	519	563	487	1.24	1.41

Note: "Teachers" include classroom teachers, administrative and professional support staff. . Excluded: special schools, boarding schools, private schools. Only state subsidy for general and professional schools is accounted for, while other state subsidies (for interest education, preschools, etc.) are excluded.

Table A2.10. Within-school variation of state-financed salary per workload of classroom teachers, general education schools (excl. special, boarding and private schools), February 2014

		Variation indicators					
		p75:p25	p90:p10	max/min	p75:p25	p90:p10	max/min
		minimum levels			median levels		
Type of settlement	Riga	1.00	1.06	1.10	1.08	1.18	1.30
	Other main cities	1.00	1.02	1.08	1.07	1.16	1.30
	Small towns	1.00	1.00	1.08	1.08	1.19	1.36
	Urban	1.00	1.00	1.08	1.08	1.17	1.33
	Rural	1.00	1.00	1.00	1.08	1.13	1.22
	Total	1.00	1.00	1.00	1.08	1.16	1.29

Notes: Only state subsidy for general and professional schools is accounted for, while other state subsidies (for interest education, preschools. etc) are excluded.

Table A2.11a. Percentiles and means of teacher salary per workload, by school location and teacher assessment level, February 2014

EUR

Teacher positions: salary per workload									
	p10	p25	p50	p75	p90	mean	75:25	90:10	N
Level	**Riga**								
1	462	484	517	517	598	510	1.07	1.29	9
2	441	470	501	526	580	504	1.12	1.32	119
3	455	495	519	541	569	516	1.09	1.25	648
4	449	498	532	562	573	523	1.13	1.28	60
5	470	512	536	569	572	514	1.11	1.22	25
NA	448	484	512	541	598	534	1.12	1.33	4 007
Total	448	484	512	541	588	531	1.12	1.31	4 868
Level	**Other main cities**								
1	413	450	450	472	478	452	1.05	1.16	6
2	398	430	462	472	507	455	1.10	1.27	141
3	399	434	462	478	507	462	1.10	1.27	567
4	432	451	465	498	527	484	1.10	1.22	118
5	458	469	473	492	555	485	1.05	1.21	8
NA	412	451	470	490	525	489	1.09	1.27	3 026
Total	406	450	470	488	525	483	1.08	1.29	3 866
Level	**Small towns**								
1	467	487	529	553	556	520.1	1.13	1.19	4
2	420	445	491	555	576	496.7	1.25	1.37	221
3	415	438	484	512	569	486.9	1.17	1.37	945
4	398	427	480	514	555	480.4	1.20	1.39	184
5	398	413	507	583	605	503.3	1.41	1.52	23
NA	398	427	477	536	683	514.2	1.26	1.71	2 464
Total	398	427	477	529	598	504.8	1.24	1.50	3 841
Level	**Rural**								
1	391	392	406	420	466	416	1.07	1.19	10
2	398	398	419	462	525	435	1.16	1.32	242
3	398	398	398	460	534	434	1.16	1.34	989
4	398	398	427	490	619	466	1.23	1.56	211
5	398	427	462	475	525	435	1.11	1.32	17
NA	398	398	402	462	548	450	1.16	1.38	4 313
Total	398	398	404	462	548	447	1.16	1.38	5 782

Notes: "Teachers" include classroom teachers, administrative and professional support staff. *N* is number of teacher positions in each category. NA refers to teachers which have not been evaluated according to February 2014 payroll data. Excluded: special schools, boarding schools, private schools. Only state subsidy for general and professional schools is accounted for, while other state subsidies (for interest education, preschools. etc) are excluded.

Table A2.11b. Percentiles and means of additional monthly payments, by school location and teacher assessment level, February 2014

EUR

Teacher positions: additional monthly payments							
	p10	p25	p50	p75	p90	mean	N
Level	**Riga**						
1	0	0	0	0	74	8	9
2	0	0	0	0	56	11	119
3	7	26	44	56	61	42	648
4	22	73	130	152	255	127	60
5	0	39	66	157	190	95	25
NA	0	0	0	45	60	23	4 007
Total	0	0	0	49	61	27	4 868
Level	**Other main cities**						
1	0	0	0	5	15	3	6
2	0	0	0	37	79	22	141
3	9	28	50	66	103	54	567
4	19	49	119	153	214	117	118
5	35	138	196	227	257	177	8
NA	0	0	3	46	76	28	3 026
Total	0	0	15	54	91	35	3 866
Level	**Small towns**						
1	0	0	0	18	27	6	7
2	0	0	0	24	54	15	266
3	8	25	49	68	101	53	1 201
4	21	51	122	170	227	123	288
5	0	38	102	221	291	149	34
NA	0	0	0	31	63	21	3 242
Total	0	0	13	54	93	35	5 038
Level	**Rural**						
1	0	0	3	21	33	10	10
2	0	0	0	2	46	12	242
3	2	17	38	54	69	39	989
4	9	31	76	127	152	84	211
5	13	25	55	96	206	71	17
NA	0	0	0	18	52	15	4 313
Total	0	0	0	36	60	22	5 782

Notes: "Teachers" include classroom teachers, administrative and professional support staff. *N* is number of teacher positions in each category. NA refers to teachers which have not been evaluated according to February 2014 payroll data. Excluded: special schools, boarding schools, private schools. Only state subsidy for general and professional schools is accounted for, while other state subsidies (for interest education, preschools. etc) are excluded

Table A2.12. Percentiles and means of state-funded monthly earnings of full-time teachers in general education schools, February 2014

By job category, type of settlement, school size and instruction language

Job type	p10	p25	p50	p75	p90	mean	75:25	90:10
Basic education teacher	530	630	773	919	1030	788	1.46	1.94
Secondary educ. teacher	582	699	848	1003	1144	867	1.43	1.97
School head	748	893	1011	1153	1299	1034	1.29	1.74
Deputy head	691	816	979	1184	1353	1001	1.45	1.96
Support staff	499	591	724	858	965	734	1.45	1.93
Preschool	427	470	584	717	842	616	1.53	1.97
Special teacher	517	604	749	931	1072	771	1.54	2.07
Interest educ., sports or arts teacher	507	598	718	854	977	735	1.43	1.93
School location								
Riga	617	730	878	1008	1137	883	1.38	1.84
Other main cities	553	649	786	928	1061	808	1.43	1.92
Small towns	565	688	829	977	1124	847	1.42	1.99
Rural	486	569	697	846	1005	733	1.49	2.07
School size								
<=100	456	520	623	750	896	655	1.44	1.96
101-150	487	564	683	808	929	706	1.43	1.91
151-300	526	616	741	872	1017	764	1.42	1.93
301-499	576	689	829	969	1116	850	1.41	1.94
500+	599	718	869	1003	1140	877	1.40	1.90
School language								
Latvian	531	641	796	953	1102	817	1.49	2.08
Latvian & Russian	544	646	773	955	1105	813	1.48	2.03
Russian	562	668	809	952	1063	817	1.43	1.89
Other minority	531	664	761	820	904	741	1.23	1.70
Total	539	647	797	952	1091	816	1.47	2.02

Notes: Only earnings funded from the earmarked state budget grant for teacher salaries in general and professional schools ("the main state grant") are accounted for, while other state subsidies (for interest education, preschools. etc) are excluded. Only teachers with at least one full workload funded by the main state grant at the given school are included. Special schools, boarding schools, private schools and stand-alone preschools are excluded.

Table A2.13. Percentiles and means of teacher total monthly earnings in all schools

By teacher "main" job type, source of financing and task, February 2014

Source of financing and task	p10	p25	p50	p75	p90	mean	75:25	90:10
General education teachers								
Total	570	686	834	984	1134	856	1.43	1.99
State	540	662	818	971	1114	829	1.47	2.06
State - main*	522	648	806	961	1103	814	1.48	2.11
For teaching	416	577	746	918	1055	747	1.59	2.54
For teaching*	399	573	741	915	1052	741	1.60	2.64
School heads and deputy heads								
Total	665	776	966	1140	1365	985	1.47	2.05
State	0	0	754	1045	1261	616		
State - main*	0	0	737	1036	1251	592		
For teaching	0	0	126	347	594	210		
For teaching*	0	0	125	346	587	209		
Support staff								
Total	493	599	739	877	1003	753	1.46	2.03
State	0	413	642	819	955	582		
State - main*	0	248	626	807	943	548		
For teaching	0	0	440	663	799	384		
For teaching*	0	0	432	662	799	381		
Preschool teachers								
Total	418	461	523	600	768	561	1.30	1.84
State	0	0	0	420	495	187		
State - main*	0	0	0	0	0	17		
For teaching	0	0	0	0	0	12		
For teaching*	0	0	0	0	0	11		
Interest education, sports and arts teachers								
Total	456	570	747	924	1103	770	1.62	2.42
State	95	398	598	795	970	588		
State - main*	0	0	0	605	833	295		
For teaching	0	0	0	540	776	258		
For teaching*	0	0	0	537	773	255		
Total								
Total	462	545	727	923	1094	761	1.69	2.37
State	0	272	619	864	1041	577		
State - main*	0	0	549	837	1018	477		
For teaching	0	0	364	735	940	398		
For teaching*	0	0	354	730	937	395		

Notes: * From the main state grant. Data refer to individual teachers rather than teacher positions. Excluded: Teachers who have less than 1 full workload (in total) Excluded: Special schools, boarding schools, private schools.

Table A2.14. Percentiles and means of teacher total monthly earnings in all schools

By teachers "main" school type, source of financing and task, February 2014 (EUR)

Source of financing and task	p10	p25	p50	p75	p90	mean	75:25	90:10
Primary schools								
Total	511	654	838	968	1102	834	1.48	2.16
State	178	553	781	943	1058	732	1.71	5.94
State - main*	0	488	758	921	1036	678	1.89	
For teaching	0	184	618	817	961	540	4.44	
For teaching*	0	167	615	814	955	534	4.87	
Basic schools								
Total	486	577	717	868	1022	746	1.50	2.10
State	320	512	675	838	985	663	1.64	3.08
State - main*	0	472	648	817	970	616	1.73	
For teaching	0	273	533	704	863	498	2.58	
For teaching*	0	262	524	696	858	491	2.66	
Secondary schools								
Total	565	693	847	1003	1177	870	1.45	2.08
State	491	650	822	982	1142	814	1.51	2.33
State - main*	453	633	807	970	1122	790	1.53	2.48
For teaching	131	479	700	885	1033	661	1.85	7.89
For teaching*	103	471	698	883	1031	656	1.87	10.01
Evening schools								
Total	628	750	940	1140	1360	976	1.52	2.17
State	552	718	928	1122	1342	928	1.56	2.43
State - main*	551	717	922	1120	1337	924	1.56	2.43
For teaching	285	550	784	991	1230	770	1.80	4.32
For teaching*	285	550	781	989	1214	766	1.80	4.26
Special schools								
Total	518	627	774	951	1123	809	1.52	2.17
State	470	579	744	915	1080	763		
State - main*	0	245	709	896	1061	617		
For teaching	0	0	352	674	898	390		
For teaching*	0	0	302	655	890	362		
Interest education institutions, sports and arts schools								
Total	421	533	719	905	1121	747	1.70	2.66
State	0	237	474	682	855	469		
State - main*	0	0	0	0	241	56		
For teaching	0	0	0	0	129	38		
For teaching*	0	0	0	0	121	37		
Preschools								
Total	420	463	531	644	844	584	1.39	2.01
State	0	0	0	404	459	159		

Notes: * From the main state grant. Data refer to individual teachers rather than teacher positions. Teachers who have less than 1 full workload (in total) excluded .

Table A2.15. Average workload and average monthly earnings of teachers working in one and in more than one school

By type of the school with the largest workload, February 2014

School type	Number of schools the teacher works in	Average number of workloads			Average total monthly earnings, EUR	Number of teachers
		Main school	Other	Total		
General (full-time)	1	1.36	0.00	1.36	707	19 004
	≥ 2	1.24	0.56	1.79	864	3 089
Evening (shift) and distance	1	1.22	0.00	1.22	723	402
	≥ 2	1.33	0.59	1.92	1 049	99
Special	1	1.46	0.00	1.46	722	2 811
	≥ 2	1.52	0.66	2.19	965	401
Sports, Arts or Interest education	1	1.22	0.00	1.22	504	3 093
	≥ 2	1.40	0.73	2.13	861	841
Preschools	1	1.17	0.00	1.17	522	7 778
	≥ 2	1.26	0.70	1.96	851	766
Total	1	1.31	0.00	1.31	646	33 088
	≥ 2	1.29	0.61	1.90	873	5 196

Notes: "Teachers" include classroom teachers, administrative and professional support staff. Data refer to individual teachers rather than occupied teacher positions. Main school is the one with the largest workload for the given teacher.

Table A2.16. Teachers' age distribution, by school type, February 2014

Percentages

	Teachers age, years										
	18-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	Total
School type											
Preschool	5.9	8.4	9.1	11.4	17.8	15	14.8	10.3	5.1	2.2	100
Primary	2.8	7	8.1	11.4	16.7	17.1	14.5	13.4	5.9	3.0	100
Basic	3	5.6	6.9	11	16	16.6	17.1	13.7	6.9	3.2	100
Secondary	2.5	5.1	5.9	10.1	14.3	16	17.2	15.7	9.0	4.4	100
Evening	1.1	4.9	6.7	9.2	13.2	15.7	17.0	16.1	9.5	6.6	100
Special	2.5	4.9	7.0	11	15.1	16.0	15.8	13.5	8.1	6.1	100
Sports, Arts or Interest education	7.1	9.2	7.8	9.2	13.1	13	14.1	12.6	7.3	6.6	100
Total	3.8	6.4	7.1	10.5	15.3	15.6	16.1	13.6	7.5	4.1	100

Notes: "Teachers" include classroom teachers, administrative and professional support staff.

Table A2.17. Teachers' age distribution in general education schools, by job category, type of settlement, school size and language, February 2014

Percentages

	Teachers age, years										
	18-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	Total
Job type											
Basic educ. teacher	2.5	5.3	6.4	10.7	15.5	15.9	17.8	14.6	7.9	3.3	100
Secondary educ. teacher	1.6	4.2	5.7	9.5	12.5	15.9	18	17.5	10.1	4.9	100
School head	0	0.7	1.8	4.1	10.7	15.9	23	21.6	15.3	6.8	100
Deputy head	0.6	2.5	5	10.5	16.5	16.6	20.6	17.9	6.8	3	100
Support	2.4	4.9	5.9	11.3	15.4	17.4	15.3	13.9	8.5	5	100
Preschool	6.5	10.4	10.7	11.7	18.3	17.5	10.9	8.6	4	1.4	100
Special teacher	3.2	4.3	9.3	8.2	17.4	17.4	20.3	10.3	6.4	3.2	100
Sports, arts or interest educ. teacher	4.1	7.6	6.6	10.7	15.5	15.5	14.9	13.7	6.7	4.6	100
Type of settlement											
Riga	3.3	7.1	7.2	11.2	13.1	12.4	15	15.2	9.5	6.1	100
Main cities excl. Riga	2.2	4.4	5.8	12	15.6	16.9	17.7	13.9	7.7	3.8	100
Small towns	1.9	4.3	5	9.1	15.1	17.8	18.0	16.5	9.1	3.3	100
Rural	2.7	5	6.7	9.9	15.6	17.6	17.7	14.5	7.1	3.2	100
School size											
<=100	2.3	5.2	6.6	10.6	16.2	18.2	17.5	13.8	6.4	3.2	100
101-150	2.8	4.6	7.3	9.9	14.9	17.6	17.8	14.9	7.9	2.5	100
151-300	3.2	5.1	6.4	10.2	15.1	17.1	17.0	14.7	7.6	3.7	100
301-499	2.2	4.8	5.3	9.7	13.7	15.8	18.5	16.3	9.0	4.7	100
500+	2.6	5.9	6.5	10.9	14.7	14.7	15.8	15.0	9.2	4.7	100
Language of instruction											
Latvian	2.9	5.7	6.7	10.5	14.6	16.5	17.2	14.9	7.5	3.5	100
Latvian & Russian	1.8	4.5	6.2	10.8	17	16.7	15.6	14.1	9.1	4.2	100
Russian	1.6	3.9	4.8	9.6	14.6	15	17.1	16.3	11	6.0	100
Other	4.1	6.8	5.5	16	13.7	11	18.3	10.5	6.4	7.8	100
Total	2.6	5.3	6.3	10.4	14.8	16.2	17	15	8.3	4.1	1000

Notes: "Teachers" include classroom teachers, administrative and professional support staff. The table refers to teachers of primary, basic, secondary and evening (shift) general education schools. School size excludes preschool students, if any. Teachers who have less than 1 full workload (in total) are excluded.

Table A2.18. Teachers' experience distribution, by school type, October 2013

Percentages

	Experience as a teacher, years					
	< 5 years	5 - 9 years	10 - 14 years	15+ years	NA	Total
School type						
Preschool	16.2	15.4	11.6	55.2	1.6	16.2
Primary	9.9	12	11	64.4	2.7	9.9
Basic	10.2	9.1	10.7	68.1	1.9	10.2
Secondary	8.4	7.2	9.6	73.2	1.6	8.4
Evening (shift)	5.8	8.4	11.7	72.4	1.8	5.8
Special	9.2	11.2	12.9	65.4	1.4	9.2
Sports, Arts or Interest Education	17.6	11	10.9	58.3	2.3	17.6
Total	11.5	10.2	10.7	65.9	1.8	11.5

Notes: "Teachers" include classroom teachers, administrative and professional support staff.

Table A2.19. Teachers' experience distribution in general education schools, by job category, type of settlement, school size and language, February 2014

Percentages

	Experience as a teacher, years					
	Less than 5	**5 - 9**	**10-14**	**15+**	**NA**	**Total**
Job type						
Basic education teacher	8.0	7.4	9.9	73.0	1.7	100
Secondary educ. teacher	5.8	6.0	9.1	77.3	1.8	100
School head	1.1	1.6	3.6	89.5	4.1	100
Deputy school head	2.5	4.2	8.7	83.5	1.2	100
Support	10.8	9.8	11.3	66.3	1.8	100
Preschool teacher	21.1	16.9	13.9	47.0	1.2	100
Special teacher	9.6	10.3	12.8	64.4	2.8	100
Interest, sports or arts teacher	13.6	10.2	10.3	64.0	2.0	100
Type of settlement						
Riga	10.5	9.1	11.3	67.4	1.7	100
Main cities excl. Riga	7.2	6.2	10.2	73.6	2.7	100
Small towns	6.9	6.3	8.5	76.7	1.7	100
Rural	9.8	9.2	10.1	69.6	1.4	100
School size						
<=100	9.3	9.1	10.5	68.9	2.2	100
101-150	9.0	8.3	10.5	70.6	1.5	100
151-300	10.2	8.3	10.4	70.0	1.0	100

Experience as a teacher, years						
	Less than 5	**5 - 9**	**10-14**	**15+**	**NA**	**Total**
301-499	7.5	7.1	9.4	74.7	1.3	100
500+	8.6	7.7	9.9	71.5	2.3	100
Language of instruction						
Latvian	9.5	8.7	10.4	69.9	1.5	100
Latvian and Russian	7.7	7.6	10.2	72	2.4	100
Russian	6.9	5.1	8.3	77.2	2.5	100
Other minority	8.7	12.8	12.8	64.8	0.9	100
Total	8.9	8	10	71.3	1.8	100

Notes: "Teachers" include classroom teachers, administrative and professional support staff. The table refers to teachers of primary, basic, secondary and evening (shift) general education schools. School size excludes preschool students, if any.

Table A2.20. Distribution of classroom teachers in general education schools by class size, by school type, type of settlement, school size and language, February 2014

Percentiles and means of distribution						
	p10	p25	p50	p75	p90	mean
School type						
Primary	12	19	23	28	30	22.3
Basic	6	8	11	18	23	12.9
Secondary	12	17	22	26	29	21.3
Evening	11	16	20	26	30	20.1
Type of settlement						
Riga	18	22	26	29	31	25.1
Main cities excl. Riga	18	21	25	27	29	23.9
Small towns	12	16	19	22	25	18.6
Rural	6	8	11	15	20	12.1
School size						
<=100	5	7	9	10	12	8.5
101-150	8	10	12	14	16	12.2
151-300	10	14	17	20	23	16.7
301-499	15	18	21	24	28	20.9
500+	18	22	25	28	31	24.8
Language of instruction						
Latvian	8	12	18	24	28	18.1
Latvian and Russian	8	12	17	22	26	17.0
Russian	17	21	25	28	30	24.1
Other minority	11	16	21	23	25	19.1
Total	8	13	20	25	29	19.1

Notes: "Classroom teachers" are those teaching some subjects (whether or not it is their main job in the given school). Class size for each position (teacher-school) is average across all classes for the given teacher in the given school, weighted by contact hours. School size excludes preschool students, if any. Excluded: Private schools, boarding schools and special schools

TableA2.21. Distribution of classroom teacher positions in general education schools by school's gross student-teacher ratio, by school type, type of settlement, school size and language, February 2014

Percentiles and means of distribution						
	p10	p25	p50	p75	p90	mean
School type						
Primary	7.8	9.7	11.5	14	15.3	11.5
Basic	3.8	4.8	6.1	8.7	11.2	6.9
Secondary	6.8	8.3	10.4	12.3	13.6	10.3
Evening	5.9	6.8	11.4	12.5	13.6	10.4
Type of settlement						
Riga	8.3	10.5	12.0	13.5	14.4	11.8
Main cities excl. Riga	9.0	9.8	11.2	12.4	13.5	11.1
Small towns	6.5	8.0	9.4	11.0	12.3	9.4
Rural	4.0	5.1	6.2	7.9	9.5	6.7
School size						
<=100	3.3	4.2	5.1	5.8	6.3	5.0
101-150	4.8	5.6	6.4	7.3	8.2	6.6
151-300	5.9	6.9	7.8	9.0	10.0	7.9
301-499	8.1	9.0	10.0	11.2	12.2	10.2
500+	9.6	11.2	12.2	13.4	14	12.1
Language of instruction						
Latvian	5.2	7.1	9.5	11.9	13.5	9.4
Latvian and Russian	4.8	6.2	8.8	11.2	13.1	8.8
Russian	6.9	7.7	9.8	11.9	13.4	10.0
Other minority	8.9	10.5	11.9	13.3	13.9	11.6
Total	5.2	7.1	9.5	11.9	13.5	9.4

Notes: "Classroom teachers" are those teaching some subjects (whether or not it is their main job in the given school). School size excludes preschool students, if any. Gross student-teacher ratio is the ratio of the number of students (excl. preschool students, if any) to the number of classroom teachers. Excluded: Private schools, boarding schools and special schools

Table A2.22. Percentiles and means of classroom teachers' wage per load, by subject taught, general education schools (excluding private, boarding and special), grades 5 - 9, February 2014

Subject	p10	p25	p50	p75	p90	mean	75:25	90:10
A. Whole country (all subjects)								
Latvian language and literature (in Russian and other minority schools)	413	455	486	526	548	488	1.16	1.33
Foreign languages	398	427	470	516	548	472	1.21	1.38
IT ("Informatics")	398	413	468	514	548	471	1.24	1.38
Chemistry	398	399	462	508	548	465	1.27	1.38
Physics	398	399	462	508	548	465	1.27	1.38
Mathematics	398	399	462	509	541	464	1.28	1.36
Optional subjects & Research	398	420	460	498	535	464	1.19	1.34
History	398	399	460	508	541	463	1.27	1.36
Social knowledge	398	399	462	504	541	463	1.26	1.36
Geography	398	399	462	504	541	463	1.26	1.36
Music (excl. professional)	398	406	460	504	535	462	1.24	1.34
Miscellaneous subjects	398	399	460	504	541	462	1.26	1.36
Biology	398	399	462	505	547	462	1.27	1.37
Housekeeping and technologies	398	399	457	500	541	461	1.25	1.36
Sports	398	399	462	504	536	461	1.26	1.35
Visual arts	398	402	462	500	534	461	1.24	1.34
Science (introductory)	398	399	462	504	541	461	1.26	1.36
Native language & literature	398	398	455	501	538	460	1.26	1.35
Russian language and literature in Latvian schools	398	398	455	498	536	458	1.25	1.35
Total	398	405	462	505	541	464	1.25	1.36
B. Urban areas (languages)[a]								
Latvian language and literature (in Russian and other minority schools)	430	460	488	526	548	491	1.14	1.27
Foreign languages	427	458	490	525	552	490	1.15	1.29
Russian language and literature in Russian schools	427	456	484	526	548	487	1.15	1.28
Latvian language and literature in Latvian schools	418	450	484	520	552	486	1.16	1.32
Russian language and literature in Latvian schools	420	455	484	519	547	485	1.14	1.30
Other minority languages	406	435	488	519	548	481	1.19	1.35

Notes: [a] This panel is added because in panel A data on "Latvian language and literature (in Russian and other minority schools)" in 96% of cases refer to urban areas and thus are not comparable with data on other subjects.

Table A2.23. Percentiles and means of classroom teachers' wage per load, by subject taught

General education schools (excluding private, boarding and special), grades 10-12, February 2014

Subject	p10	p25	p50	p75	p90	mean	75:25	90:10
A. Whole country (all subjects)								
Latvian language and literature (in Russian and other minority schools)	443	465	505	531	555	500	1.14	1.25
IT ("Informatics")	413	455	486	534	570	496	1.17	1.38
Mathematics	413	455	491	529	569	494	1.16	1.38
Econ. & Business	413	455	488	534	573	494	1.17	1.39
Options & Research	413	462	498	525	555	494	1.14	1.34
Foreign language	415	458	498	529	555	493	1.16	1.34
Chemistry	413	455	484	526	569	493	1.16	1.38
Miscellaneous	413	455	484	529	566	491	1.16	1.37
History	406	448	484	526	569	491	1.17	1.40
Physics	413	450	485	529	555	491	1.18	1.34
Biology	410	452	484	526	555	491	1.16	1.35
Culture	408	450	491	525	555	491	1.17	1.36
Scenic arts	410	462	480	500	562	491	1.08	1.37
Geography	406	455	484	525	555	490	1.15	1.37
Native language & literature	407	448	484	526	565	489	1.17	1.39
Russian language and literature in Latvian schools	413	448	481	519	555	486	1.16	1.34
Sports	413	455	484	525	548	485	1.15	1.33
Visual arts	402	434	480	524	555	485	1.21	1.38
Music (excl. professional)	406	441	478	511	536	477	1.16	1.32
Total	413	455	485	526	560	491	1.16	1.36
B. Urban areas (languages)[a]								
Latvian language and literature (in Russian and other minority schools)	443	465	508	532	555	501	1.14	1.25
Russian language and literature in Russian schools	427	462	504	534	562	499	1.16	1.32
Foreign languages	429	470	501	534	555	499	1.14	1.29
Latvian language and literature in Latvian schools	427	462	491	526	569	499	1.14	1.33
Russian language and literature in Latvian schools	427	462	491	520	555	495	1.13	1.30
Other minority languages	406	412	448	511	626	477	1.24	1.54

Notes: [a] This panel is added because in panel A data on "Latvian language and literature (in Russian and other minority schools)" in 96% of cases refer to urban areas and thus are not comparable with data on other subjects.

Table A2.24. Distribution of full-time classroom teachers in general education schools by the ratio of compensated non-contact teaching-related hours to contact hours, February 2014

	Percentiles and means of the distribution							
	p10	p25	p50	p75	p90	mean	p75:p25	p90:p10
School type								
Primary	0.17	0.28	0.42	0.51	0.58	0.39	1.82	3.41
Basic	0.07	0.15	0.26	0.37	0.47	0.27	2.47	6.71
Secondary	0.16	0.23	0.33	0.45	0.54	0.34	1.96	3.38
Evening	0.17	0.26	0.36	0.48	0.56	0.37	1.85	3.29
School size								
<=100	0.04	0.10	0.20	0.29	0.38	0.20	2.90	9.50
101-150	0.11	0.19	0.27	0.35	0.43	0.27	1.84	3.91
151-300	0.15	0.23	0.33	0.43	0.50	0.33	1.87	3.33
301-499	0.16	0.24	0.34	0.45	0.54	0.34	1.88	3.38
500+	0.16	0.24	0.35	0.47	0.56	0.36	1.96	3.50
Settlement								
Riga	0.15	0.23	0.33	0.45	0.55	0.34	1.96	3.67
Other main cities	0.16	0.24	0.36	0.47	0.55	0.36	1.96	3.44
Small towns	0.17	0.24	0.35	0.45	0.54	0.35	1.88	3.18
Rural	0.08	0.17	0.27	0.37	0.46	0.27	2.18	5.75
Language								
Latvian	0.13	0.21	0.33	0.44	0.54	0.33	2.10	4.15
Latvian & Russian	0.14	0.21	0.32	0.42	0.51	0.32	2.00	3.64
Russian	0.13	0.22	0.33	0.43	0.52	0.32	1.95	4.00
Other Minority	0.24	0.32	0.4	0.48	0.54	0.39	1.50	2.25
Total	0.13	0.21	0.33	0.43	0.53	0.33	2.05	4.08

Notes: Private, boarding and special schools excluded. Only teachers with full contact workload (≥ 21 contact hours per week) in the given school are included. Only state subsidy for general and professional schools is accounted for.

Table A2.25. Breakdown of classroom teachers' average compensated teaching-related hours by task, general education schools (excl. private, boarding and special), February 2014

	Teaching (contact)	Correction	Consultation	Preparation	Supervision	Total	Total/teaching
School type							
Primary	17.44	1.60	1.28	1.26	2.39	23.97	1.37
Basic	16.96	0.95	1.00	0.91	1.40	21.22	1.25
Secondary	18.70	1.63	1.35	1.32	1.91	24.91	1.33
Evening	13.87	1.35	1.20	1.10	1.78	19.30	1.39
School size							
<=100	16.16	0.63	0.77	0.66	1.03	19.25	1.19
101-150	17.22	0.98	1.07	1.02	1.46	21.75	1.26
151-300	16.49	1.31	1.18	1.17	1.68	21.83	1.32
301-499	18.45	1.53	1.35	1.34	1.97	24.64	1.34
500+	19.46	1.86	1.45	1.40	2.12	26.29	1.35
Settlement							
Riga	18.70	1.70	1.36	1.28	1.82	24.86	1.33
Other main cities	18.26	1.72	1.34	1.32	2.09	24.73	1.35
Small towns	18.26	1.54	1.33	1.36	1.98	24.47	1.34
Rural	17.22	1.01	1.05	0.98	1.47	21.73	1.26
Language							
Latvian	17.74	1.36	1.23	1.20	1.75	23.28	1.31
Latvian & Russian	18.53	1.48	1.27	1.24	1.95	24.47	1.32
Russian	18.94	1.71	1.29	1.22	1.90	25.06	1.32
Other Minority	16.10	1.31	1.36	1.30	1.60	21.67	1.35
Total	18.03	1.44	1.25	1.21	1.80	23.73	1.32
Of which							
≥ 21 weekly contact hours	25.93	2.27	1.80	1.75	2.50	34.25	1.32
< 21 weekly contact hours	12.12	0.82	0.83	0.80	1.27	15.84	1.31

Notes: Only state subsidy for general and professional schools is accounted for**.** Only teachers with non-zero teaching (contact) workload in the given school are included.

Table A2.26. Breakdown of classroom teachers' average compensated teaching-related hours by task, general education schools (excl. private, boarding and special), February 2014

Teachers with full teaching workload (≥ 21 contact hours per week) in the given school

	Teaching (contact)	Correction	Consultation	Preparation	Supervision	Total	Total/teaching
School type							
Primary	25.73	2.54	1.92	1.87	3.64	35.70	1.39
Basic	25.93	1.67	1.53	1.40	2.21	32.74	1.26
Secondary	25.94	2.44	1.87	1.85	2.53	34.63	1.34
Evening	25.99	2.67	2.17	2.1	2.46	35.39	1.36
School size							
<=100	25.91	1.22	1.21	1.06	1.69	31.09	1.20
101-150	25.89	1.70	1.63	1.56	2.18	32.96	1.27
151-300	25.62	2.27	1.78	1.78	2.51	33.96	1.33
301-499	26.16	2.30	1.88	1.88	2.73	34.95	1.34
500+	25.92	2.60	1.94	1.88	2.63	34.97	1.35
Settlement							
Riga	25.78	2.55	1.87	1.77	2.39	34.36	1.33
Other main cities	25.79	2.54	1.89	1.85	2.78	34.85	1.35
Small towns	26.01	2.35	1.90	1.94	2.77	34.97	1.34
Rural	26.10	1.74	1.59	1.49	2.18	33.10	1.27
Language							
Latvian	25.96	2.23	1.82	1.78	2.56	34.35	1.32
Latvian & Russian	26.22	2.14	1.77	1.74	2.51	34.38	1.31
Russian	25.72	2.48	1.76	1.65	2.29	33.90	1.32
Other Minority	24.85	2.54	2.14	2.14	2.85	34.52	1.39
Total	25.93	2.27	1.80	1.75	2.50	34.25	1.32

Notes: Only state subsidy for general and professional schools is accounted for**.**

Table A2.27. Breakdown of classroom teachers' average compensated teaching-related hours by task, depending on subject taught, February 2014

General education schools (excl. private, boarding and special)

	Teaching (contact)	Correction	Consultation	Preparation	Supervision	Total	Total/teaching
Main subject taught (grouped)							
Multiple subjects (grades 1-4)	21.24	2.05	1.47	1.45	3.71	29.92	1.41
Mathematics	20.85	2.72	1.47	1.38	1.98	28.40	1.36
Languages	19.82	2.42	1.4	1.35	1.8	26.79	1.35
Humanities & Social Sciences	14.57	0.44	1.07	1.02	1.52	18.62	1.28
Science	16.9	0.64	1.26	1.20	1.37	21.37	1.26
IT ("Informatics")	13.38	0.33	0.96	0.92	0.90	16.49	1.23
Housekeeping and technologies	15.19	0.18	1.04	1.03	0.90	18.34	1.21
Arts	14.94	0.16	0.90	0.89	0.93	17.82	1.19
Sports	18.72	0.10	1.26	1.27	0.94	22.29	1.19
Other	7.15	0.15	0.18	0.18	0.61	8.27	1.16
Total	18.03	1.44	1.25	1.21	1.80	23.73	1.32

Notes: Only state subsidy for general and professional schools is accounted for**.** Only teachers with non-zero teaching (contact) workload in the given school are included.

Table A2.28. Determinants of classroom teacher earnings in the given school, February 2014

Log gross earnings per:	Month						Workload			
Mixed linear models:	[1]		[2]		[3]		[4]		[5]	
School characteristics										
Gross student/teacher	0.030	***	0.039	***	0.041	**	0.021	***	0.013	***
Average class size [b]	0.008	***	0.004	***					0.006	***
Share of students in:										
grades 1 to 4 (day	0.052		0.018		0.054		-0.020		-0.011	
grades 10 to 12 (day	0.133	**	0.170	***	0.194	**	0.057	*	0.004	
evening or distance	0.097	**	0.066	*	0.102	*	0.069	***	0.078	***
special needs students (in	0.458	***	0.452	***	0.425	**	0.182	***	0.192	***
specialised programmes	0.051	**	0.071	***	0.075	**	0.031	**	0.011	
The school is a state	0.119	***	0.117	***	0.129	**	0.121	***	0.114	***
Location (vs. small towns)										
Riga	-0.018		-0.037		0.005		0.035		0.033	
Other main cities	-0.091	***	-0.098	***	-0.068	**	-0.039	*	-0.045	**
Rural	0.017		0.007		0.006		-0.005		0.008	
Municipality student density ≤ 0.5 per km^2 [c]	0.075	***	0.072	**	0.068	**	0.021		0.025	
Language of instruction										
Latvian & Russian	-0.012		-0.021		-0.032	*	-0.030	***	-0.018	*
Russian	-0.044	***	-0.050	***	-0.042	**	-0.026	***	-0.021	**
Other minority	0.006		0.007		-0.002		-0.048	*	-0.042	
Teacher characteristics *Experience* (vs. 15+ years)										
< 5 years	-0.121	***	-0.190	***	-0.155	**	-0.115	***	-0.086	***
5 - 9 years	-0.088	***	-0.124	***	-0.099	**	-0.077	***	-0.057	***
10 -14 years	-0.015	**	-0.036	***	-0.022	**	-0.031	***	-0.020	***
Job tenure (vs. 5+ years)										
< 5 years	-0.047	***							-0.015	***
Study level with the largest workload (vs. grades 5-9)										
Primary (grades 1-4)	-0.031	***	-0.036	***	-0.031	**	-0.001		-0.001	
Upper secondary (grades	0.016	***	0.028	***	0.018	**	0.034	***	0.027	***
Works in more than one	-0.116	***	-0.110	***	-0.120	**	-0.024	***	-0.028	***
Teaches 2 subjects	0.021	***	0.027	***	0.021	**	-0.008	***	-0.010	***
Teaches 3 or more	0.024	***	0.033	***	0.024	**	-0.031	***	-0.033	***
Teacher performance assessment outcome (vs. Level 3)										
Level 1	-0.117	***			-0.118	**			-0.071	***
Level 2	-0.043	***			-0.044	**			-0.063	***
Level 4	0.143	***			0.142	**			0.117	***
Level 5	0.192	***			0.190	**			0.158	***
NA	-0.085	***			-0.092	**			-0.041	***
Main subject taught	Yes		Yes		Yes		Yes		Yes	
Other controls	Teacher education level (3 categories)									
City/novads random	0.057	***	0.065	***	0.065	**	0.053	***	0.047	***
School random effects –	0.088	***	0.086	***	0.088	**	0.057	***	0.057	***
Residual std. deviation	0.196	***	0.203	***	0.197	**	0.105	***	0.099	***
Log likelihood	1785.2		1437.2		1738.6		8293.9		8884.4	
N observations	10 636		10 636		10 636		10 636		10 636	

Notes: Special, board and private schools excluded. Teachers, whose main job in the school is not teaching, excluded. Only earnings from the main state grant are accounted for. Only teachers with at least 1 full workload financed from the main state grant in the given school are included.

[a] Gross student-teacher ratio is the ratio of the number of students (excl. preschool students, if any) to the number of classroom teachers.

[b] In models (1) and (5), the *school average class size* is calculated from payroll data as average across all subjects/grades/classes weighted by contact hours. In model (2), the similarly calculated *teacher-specific class size* is used. Models (3) and (4) omit class size to show the full effect of student-teacher ratio

[c] For a municipality (*novads*) where the number of students in general education schools (excl. evening and distance education) per sq. kilometre is 0.5, the number of students is being multiplied by 1.3 when calculating the amount of the main state grant for teacher salaries (see Table 4.1). ***, **, * -estimates significantly different from 0 at 1%, 5% , 10% level, respectively.

NOTES

1 Sources of all Tables in this Annex are calculations with administrative data described at the beginning of Annex A1.

ANNEX B. COUNTRY SNAPSHOTS OF TEACHER REMUNERATION SYSTEMS

Education systems in OECD countries differ in how they allocate funding to schools and teachers. The following ten country and regional snapshots have been prepared by the OECD review team using OECD, EU and national sources. The jurisdictions were chosen due to their educational excellence (measured by PISA results, among others); and by the nature of their funding systems or specific circumstances (*e.g.* geographical) potentially relevant for the Latvian system. While national specificities can only be emulated rather than taken as a universal best practice, they serve as starting point for a more in-depth reflection. Evidence shows many countries choose roughly comparable approaches to school and teacher financing. A recent Eurydice report, for instance, identifies formula funding as the most popular method among EU28 countries. According to the report, formula funding is also the most common way to determine resources for teaching staff, whether as part of a block or earmarked grant, or a direct payment from the central authority (European Commission/EACEA, 2014). Given Latvia's specific settings analysed in the OECD review, attention was given to issues such as financial governance at sub-central levels, elements of per-capita funding formulae, school-size policies, education provision in remote areas, demographic developments, the ratio of teachers to open positions and teachers' status in society (as expressed, among others, in salaries).

The snapshots provide comprehensive information on the respective education system with respect to financial governance, the school system, and the status and remuneration of teachers in particular. They include Estonia, Finland, the Flemish Community of Belgium, Korea, the Netherlands, New Zealand, Ontario (Canada), Poland, Sweden and Wales (UK).

After a brief introduction to the jurisdiction's PISA performance and spending on education, each snapshot details the basic governance system and education funding responsibilities. With respect to teachers, there is information on training, professional development and working conditions (class size, teaching hours, age and gender balance), and salaries and their components. A box on reforms provides current information and links to recent developments in the school and teacher sectors.

REFERENCES

European Commission/EACEA (2014), *Financing Schools in Europe: Mechanisms, Methods and Criteria in Public Funding: Eurydice Report*, Publications Office of the European Union, Luxembourg, http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/170EN.pdf.

Estonia

Introduction

About one-third of the 1.34 million Estonians (32%) live in rural areas, and over 80% of local governments are in rural areas. About half of all municipalities have less than 2 000 residents. Estonia has a rather small education system: in 2012, about 167 000 general and vocational students were taught in 573 schools (primary to upper secondary). Estonia's PISA performance was above the OECD average in 2012, while overall spending on education as a percentage of GDP is below the OECD average and among the lowest in OECD countries (5.5% in 2011, compared to 6.1%). Per-student spending remained below the OECD averages in 2011: Estonia spent USD 5 328 for each primary, USD 6 009 for each lower secondary and USD 6 688 for each upper secondary student. Virtually all education funds in primary, secondary and post-secondary, non-tertiary education issue from public sources (98.9% in 2011), above the OECD average of 91.4%.

Due to its large minority of Russian speakers, Estonia is one of few EU countries with a multilingual public school system. Russian-language education is provided in public and also in private schools at all levels. One in five Estonian school children attends Russian-language primary and secondary schools. This imposes higher per-student costs due to additional teaching in minority languages, compared to a situation with only a single language of instruction. Following a peak in student enrolment at the end of the 1990s, the Estonian student population has shrunk significantly, as has the number of schools.

Box B.1. Recent policies and legislation on teachers: Estonia

Since 2013, efforts have been made to modernise the general education system. This includes increasing teacher salaries by changing the calculation base from contractual hours to full-time employment pay. In 2008, a new teacher start-up support scheme was launched for young teachers who begin work in rural areas. They receive a total amount of EUR 12 782 paid within three years.

Since 2004-05, Estonia aimed at reorganising the school networks (*koolivõrgu korrastamine*). School-related commutes of all students were mapped to find out (1) how close to their home their upper secondary school was; (2) whether or not they preferred studying in larger cities; and, (3) how the institutional setup of a school influenced the characteristics of its students. Subsequent amendments to the Basic School and Upper Secondary School Act (2013) include separating basic and upper secondary schools, with the aim of improving learning environments and optimising the use of educational resources. The central government is now required to establish state-owned upper secondary schools in each local district. As the reform involves extensive negotiations with local authorities with management responsibility over schools (see below), it is still in the implementation phase.

A multi-actor working group is developing a new continuous professional development system for teachers that will be driven by teachers' needs for professional development. The new system will be based on the Lifelong Learning Strategy 2014-2020 which has as one objective to raise the status of the teaching profession. The transfer to the new system is expected in 2015.

Box B.1. Recent policies and legislation on teachers: Estonia (continued)

Professional teacher standards, conforming to the levels of the European Qualifications Framework (EQF), were developed in cooperation between teachers, leaders of educational institutions, employers and government representatives to serve as the basis for a new career model. Staff can progress from teacher (Levels 6, 7.1) to senior teacher (Level 7.2) and master teacher (Level 8). Applications by teachers to obtain the standards could be made beginning in April 2014.

Sources: Estonian Ministry of Education and Research (2014), *New professional teacher standards and their implementation*, www.tallinn.ee/haridusasutused/Kaspar-Kreegimae; Eurypedia (2014); OECD (forthcoming), *Education Policy Outlook: Making Reforms Happen*, OECD Publishing, Paris.

Governance and funding responsibilities

Estonia has a relatively centralised education system. The state sets national standards and establishes principles of education funding, state supervision and quality assessment. Governance is shared between central and local levels. Early childhood education and care is managed by local authorities and most of the decisions in lower secondary education are taken at the school level.

Funding for education (both public and private schools) is allocated by the central level to the school owners (mostly municipalities and city councils). It is based on student numbers and classes, and covers education-related costs such as teaching staff wages. Schools are funded from both state and municipal budgets. Per-capita funding was introduced in the late 1990s and was mainly based on the size of municipalities, not differentiating among different education levels. It was revised in 2008 after complaints that small rural schools were not protected by the then-current formula. The new formula bases per-student funding on the calculation of teaching costs; the per-capita element is no longer used on schools in municipalities with less than 1 600 students (both Estonian and Russian speaking). Estonian and Russian students are treated separately if they are taught in separate classes. Small schools are now funded according to the number of classes they are assumed to need. Special funding is also awarded to schools with specific characteristics (*e.g.* island schools or schools with 10-30 students at lower secondary level with the closest alternative school more than 30km away).

Since 2008, allocations are split into:

- Basic minimum cost of teaching – which makes up almost 90% of the total education grant – and other resources (*e.g.* textbooks); and
- A further allocation (integrated in the per student amount) which local governments may use at their own discretion.

Per-student teaching costs are based on the total number of lessons students must be taught per week, the average number of lessons taught by one teacher (21 hours) and the number of students in a small class (17 in primary and lower secondary education; 21 in upper secondary education). Small classes (below 17 or below the full-size maximum of 24 students at primary and lower secondary level) receive "empty places" funding. Nevertheless, the amount of per-student funding cannot exceed

the triple base per-student amount (*e.g.* for primary classes with less than seven students).[1] Special educational needs students are also assigned additional amounts determined by the smaller class size. Adjustment funding is available for schools whose annual increase in salary grants is below the national increase, in order to prevent large school budget reductions.

Schools have a high degree of autonomy on curriculum and financial matters, as well as on hiring and dismissing of teaching staff. While teacher minimum salaries are set at the central level (except for pre-primary education), municipalities may offer higher wages. Teacher costs exceeding state allocations must be borne by the school's owner, including higher-than-average teacher salaries – these are agreed upon with local unions. Municipalities are also expected to cover operational expenses.

The teaching profession in Estonia

In the 2013/14 school year, 24 224 teachers worked in Estonian schools, the majority (14 226) in general education, 2 129 in vocational education and 7 869 in early childhood institutions.

Teachers are required to have a tertiary qualification, further to three (pre-primary and vocational education) to five years (general programmes) of initial training including a teaching practicum. They must also participate in continuing professional development. Teacher training is ensured by two Estonian universities, facilitating governance of the system. There are no competitive examinations to enter training or start teaching. New teachers are supervised by a mentor and have a mandatory induction programme. Primary and secondary teachers had below-average teaching time in 2012: 619 hours at primary and lower secondary levels and 568 hours at upper secondary level, compared to OECD averages of 782, 694 and 655 hours respectively. Teachers have to teach between 18 and 24 periods a week, which gives municipalities some flexibility.

In 2004, the Ministry of Education and Research launched an online teacher's register into which schools send data about their teachers regarding their workload, subjects taught, level of education, in-service training and language command. The register is part of the publicly available Education Information System of Estonia.

Continuing professional development – at least 160 hours every five years – is mandatory for all teachers. Local municipalities may allocate additional resources for teacher in-service training and determine the fields where they may be used. Schools make in-service training decisions on the basis of their needs and development plans. Management of training is the task of the school manager.

Classes in Estonia are very small compared to OECD averages. The national maximum size for grades 1 to 9 (primary and lower secondary education) was reduced to 24 in 2008, and Estonia reported the smallest class size at lower secondary level of education (16) and among the smallest (17; bottom three) at the primary level of education in 2012. Student-teacher ratios were also low: 13 at primary, 10 at lower secondary and 14 at upper secondary level, compared to the OECD averages of 15, 14 and 14 respectively. This is also a result of an ongoing demographic decline. According to the latest census in 2011, the population has shrunk by 5.5% compared to 2000. The percentage of persons aged 14 or younger dropped from 18% to 15%. While the population around major cities such as

Tallinn increased, it has declined in the more remote areas of the country as a result of internal migration flows towards the urban areas, which may cause problems for small rural schools.

The teaching force is ageing faster than on OECD average, especially in upper secondary education where 19% of teachers were 60 years or older and 50% were 50 or older in 2012 (compared to the OECD averages of 9% and 38%). Figures were slightly lower for other education levels: at lower secondary level, 17% of teachers were 60 or older (OECD average: 7%), and at primary level10% of teachers belonged to this age group, compared to the average of 5%. Still, 14% more lower secondary teachers than on average are 50 or older (48% compared to 34%). At the same time, the proportion of teachers under 30 is below the OECD average: at primary and secondary levels, less than one in ten teachers fall into this age group. Men are strongly underrepresented at all education levels, as only 8% of teachers in primary, 19% in lower secondary and 28% in upper secondary education (even less in general upper secondary programmes) were male in 2012 (compared to the OECD averages of 18%, 33% and 43% respectively). The lacking attractiveness to male graduates may stem from low salaries and reputation of the profession (see below).

Teacher remuneration in Estonia

The basis for determining the salaries of general and vocational school teachers (monthly salary rate and additional payments) is the salary fund allocated to the owner of the school. Support for teachers' and heads' salaries is allocated to local authorities as a lump sum. The minimum salaries of teachers, including classroom teachers, are agreed upon by government representatives, national unions of local municipality organisations and of registered teacher unions according to their occupational grades. If no agreement is reached, the government determines the size of the minimum salaries. The remuneration of municipal school teachers is approved by the school owner, according to the state-wide agreement or the precept on minimum rates.

Teachers are appointed in one of four wage categories (Young Teacher, Teacher, Senior Teacher, Teacher-Methodologist) according to their professional competences and qualifications, seniority not being taken into account. Contracts are concluded, amended and terminated by the school's principal, in accordance with labour laws and other legislation regulating the employment relations of teachers. Collective agreements between unions and employer organisations may only establish more favourable salaries than the legal standards.

Basic salaries may be increased through several allowances, namely for positive teaching performance, additional responsibilities, geographical location (*e.g.* remote areas), special education needs (10-20% of basic salary), extracurricular activities and overtime. For instance, if teachers teach students with special educational needs, their remuneration is increased by 10% of the minimum salary rate. Appraisal schemes of teachers are designed specifically for career progression and thus influence salaries.

As of 2012, primary and secondary teachers had an identical statutory wage scale ranging from USD 11 828 for new teachers to USD 17 288 at the top of the scale. These figures are far below the respective OECD averages and even the maximum salaries in Estonia remain below the average starting salaries: primary teachers in OECD countries, on average, earn between USD 29 411 and

USD 46 909. In most other OECD countries, there is also a differentiation between education levels as secondary teachers earn higher wages than primary teachers, which is not the case in Estonia. Furthermore, the salary scales are flatter than on OECD average: while in Estonia, top salaries are 46% higher than starting salaries at all education levels, on average in OECD countries, experienced teachers can earn up to roughly 60% more than their inexperienced colleagues. Also, the maximum statutory salary in Estonia is reached after 7 to 8 years of work as a fully qualified teacher, one of the shortest timeframes among OECD members (the OECD average for lower secondary teachers is 24 years).

Teacher salaries were 47% higher in 2012 than in 2000, having grown faster than the average 15% increase across OECD countries. However, reflecting the low level of per-student expenditure, actual salaries are not competitive with salaries of comparable tertiary-educated workers (25-64 years) as they were about 16% lower in 2012, a gap similar to the average across OECD countries (15%). They are also significantly lower than the average per-capita GDP in Estonia (32% lower for teachers with 15 years of experience).

Due to the economic crisis, expenditure on education fell by 10% between 2008 and 2010. Teacher minimum salaries were cut back to their 2008 levels in 2009 and were frozen at this level Furthermore, recent inflation in Estonia allowed real wages to fall even if nominal wages were kept constant. Teacher salaries fell by 8% in real terms at all educational levels to reach almost the levels of 2008.

NOTES

1 This is not the case for island schools.

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Finland

Introduction

Fifteen-year-olds in Finland's 2 644 comprehensive schools once more performed above OECD average on PISA in 2012, although mathematics, reading and science scores have decreased across PISA cycles. Overall spending on education is above the OECD average with 6.5% of GDP (compared to 6.1%) in 2011. Spending per student in 2011 was below average for primary (USD 8 159) and upper secondary (USD 8 467) education, but above average for lower secondary education (USD 12 545) – one of the highest figures at this education level. Funding for primary, secondary and post-secondary non-tertiary education is almost exclusively provided by public sources: with 99.3% (2011), Finland has one of the highest shares of public funding among OECD countries with available data.

Finland is one of several European countries with a network of small rural schools (660 schools with less than 50 students in 2012). About one-fifth of Finland's population lives in rural regions, mostly in the northern part of the country. This is one of the highest shares among OECD countries and similar to the situation in Denmark and Sweden. In these often sparsely populated areas it is challenging to deliver public services. Municipalities have taken different approaches to consolidate the school network. While some have set a minimum threshold for student numbers to keep schools running, others proceed on a case-by-case basis. The total number of schools, both numbers for comprehensive schools and small schools (less than 50 students), has progressively declined over the past decades, mostly due to economic reasons. For instance, in 2006, the Finnish government abolished an additional allocation for small schools.

Box B.2. Current and recent policies on teachers and school networks: Finland

The structural policy programme adopted in November 2013 aims at boosting government efficiency. Proposals include a reduction of local government tasks and a steering system for local public finances, with the aim of achieving a EUR one billion reduction in municipal operating expenditure at 2017 prices, of which about EUR 300 million would come from cuts to local education spending. According to the government's planning document, secondary education funding will be primarily based on performance (like qualifications and credits), and the secondary school network will be condensed. Local government trials in 2015-16 will test the reforms' effects on education services. If implemented, the reforms may have a distinct effect on local governments and the services they provide, especially in upper secondary education.

A municipal reform aims to strengthen municipal and service structures and will reconsider the task distribution among municipalities and the state. Education funding and the operational environment in basic education will also be reviewed. Municipal councils have an obligation to provide reports and proposals for mergers by July 2014, to be implemented between 2015 and 2017.

Recent teacher policies include the Finnish Network for Teacher Induction "Osaava Verme" Programme (2010-16), a national fixed-term programme for continuing professional development to ensure systematic continuing professional development of staff in schools. The programme supports education providers to systematically and continually develop the skills and knowledge of their staff according to locally identified needs.

Sources: Finnish Government (2013), *Government Decision on Implementing the Structural Policy Programme*, http://valtioneuvosto.fi/etusivu/rakenneuudistus395285/tiedostot/paatos-29112013/en.pdf; OECD (2013), *Education Policy Outlook: Finland*, OECD Publishing, Paris; OECD (forthcoming), *Education Policy Outlook*, OECD Publishing, Paris.

Governance and funding responsibilities

Finnish governance is structured around two elected tiers, central and municipal, with no intermediate levels such as regions or counties. Municipal institutions include single municipalities and joint municipal boards set up on a permanent basis to perform specific tasks like providing education services.

Finland is one of the most decentralised OECD countries, as evidenced by a relatively high share of local government expenditure as a share of GDP (above 20% in 2011). The degree of decentralisation in education is also among the highest in the OECD. While priorities are set by the national Ministry of Education and Culture in four-year development plans, the 320 municipalities enjoy a high degree of autonomy in education matters. Local authorities are responsible for providing comprehensive and upper secondary schooling, vocational education and training, and other education services. This includes recruiting and paying basic education teaching staff, who are part of the public service. The degree of school autonomy depends on the municipalities.

A potential issue with regard to municipalities is their small size. Half of Finnish municipalities have fewer than 6 000 inhabitants and only 16% have more than 20 000 inhabitants. While a significant number of voluntary mergers have taken place since 1990, lowering the number of municipalities from 460 to 320, most municipalities prefer to provide specific services on a larger scale cooperatively, rather than merge. Enhancing cooperation, however, may not be sufficient to meet the challenges associated with an ageing population and the erosion of tax base suffered by some municipalities.

Municipalities spend around one-fourth of their revenue on education. Apart from self-generated revenues such as taxes, they receive specific grants for basic and upper secondary education from the central government. These are allocated according to a formula which accounts for the number of municipal residents aged between 6 and 15, and the confirmed unit prices per student calculated every four years according to real costs. Education providers, *i.e.* local authorities or joint boards, are obliged to submit expenditure data to the Finnish National Board of Education (FNBE) and to Statistics Finland to aid this calculation. The government aims to ensure equity in access to education through these grants. The basic amount of the government transfer is higher for sparsely populated areas, bilingual municipalities, island municipalities, Swedish-speaking municipalities and for those with a high number of foreign-language speaking children. Fund allocation authority lies with the municipality for pre-primary to lower secondary education. Grants are not earmarked, meaning that the allocation decisions remain at the discretion of the municipality. Any costs exceeding the state grants calculated through the formula must be borne by the municipalities.

The teaching profession in Finland

Finland had about 70 450 teachers in primary and secondary schools in 2012. The teaching profession is highly respected and frequently mentioned as a major reason for Finland's educational success. TALIS 2013 results show 58.6% of Finnish teachers (primary and secondary) agreed that the teaching profession is valued in society – one of the highest proportions among participating countries and far above the TALIS average of 30.9%. A reform at the end of the 1970s strengthened teacher

education and made it highly selective. Teacher education moved from teachers' colleges into universities (nine at present), and primary school teachers were required to have a master's degree. Only about 10% of candidates who apply to primary teacher studies are accepted. Currently, 90% of the teaching force is fully qualified.

The student selection process for primary teacher education involves two stages: (1) an examination to assess applicants' academic learning skills, and (2) a combination of written questions and aptitude tests to assess applicants' skills, motivation and commitment. Teacher training at primary and secondary level lasts four (vocational education) or five years (general programmes) and teaching practicum is compulsory. Primary school teachers major in education and they may specialise in teaching one or several subjects in their minor subject studies. Upper grade teachers major in specific subjects and do their pedagogical studies along the programme or as a separate module after graduation. Teachers have considerable pedagogical autonomy with regard to curricula, methods and materials. Continuing professional development (CPD) is decided by employers (usually municipalities), but funding of three days per year for all professionals is mandatory, and CPD is also mandatory for teachers to remain employed.

In 2012, per capita annual teaching time was below the OECD average at all education levels. Finnish teachers taught roughly 100 hours less than on OECD average in primary, lower secondary and upper secondary education (782, 694 and 655 hours respectively). The average class sizes in primary (19) and lower secondary (20) education were slightly below the OECD averages in 2012. Teacher-student ratios were slightly below the OECD average in primary education (14 compared to 13) and lower secondary education (9 compared to 14), and above average in upper secondary education (16 compared to 14).

Overall, the age structure of Finland's teaching force roughly corresponds to the OECD averages, with most teachers between 30 and 50 years of age, and average shares of older teachers. There was a relatively low share of young teachers in upper secondary education in 2012: one in 20 teachers was younger than 30 years (OECD average: 9%) and 26% were younger than 40 years (OECD average: 34%). The share of men working as upper secondary teachers was at 41%, close to the 2012 OECD average of 43%. Compared to other OECD countries, men were underrepresented in lower secondary education (28%, below the OECD average of 33%), but the share of men in primary education (21%) was above average (18%).

The number of students in upper secondary education has decreased since 2001, together with the number of institutions offering general upper secondary education. However, given the current stable demographic situation, the highly selective teacher admission and the announced rise of the compulsory schooling age to 17 years, the education system and teachers in Finland may not face the same pressures as countries deeply affected by crises or demographic decline.

Teacher remuneration in Finland

Finnish teacher wages are set at the local level according to collective agreements between the Trade Union of Education and Local Authority Employers for state and municipal civil servants every one to three years. Statutory teacher salaries increase with the education level and are – with the

exception of maximum salaries – above OECD averages. In 2012, primary teachers earned between USD 32 148 (starting salary) and USD 41 811 (maximum salary with maximum qualifications). Lower secondary teachers received USD 34 720 to USD 45 157, and teachers at upper secondary level started at USD 36 817 and could earn as much as USD 48 745. Average annual salaries surpassed the statutory salaries; they were USD 42 910 for primary, USD 46 968 for lower secondary and USD 52 606 for upper secondary teachers. Top salaries were about 30% higher than starting salaries (compared to roughly 60% on OECD average), taking 20 years to reach the top of the salary scale. Salaries only increased moderately compared to 2000 (14% in primary and 8 to 10% in secondary education).

The annual salary includes a holiday payment (50% of one monthly salary). Salary allowances are granted for further formal qualifications, qualifications gained through continuing professional development, positive appraisal, additional responsibilities, geographical location (2.37% of the basic salary), teaching students with special education needs, participation in extracurricular activities and overtime, almost all of which are fixed by local agreements (allowances for geographical location excepted).

Teachers in Finland, with the exception of pre-primary and primary teachers, earn about the same or more as other tertiary-educated workers in the country, with the actual salaries of primary teachers at 89%, of lower secondary teachers at 97% and of upper secondary teachers at 109% of other workers' average earnings. These figures are above the OECD averages and make teaching a financially attractive profession to young graduates.

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The Flemish Community of Belgium

Introduction

As of February 2014, the Flemish Community had about 430 000 primary and 455 000 secondary students (including special needs and part-time students), a small number compared to other OECD education systems. The average scores of Flemish 15 year-old students have consistently been above the OECD average in reading, mathematics and science since 2000. However, the average performance hides large differences among schools.

According to the Flemish Ministry of Education, overall spending on all levels of education as a percentage of GDP was 6.5% in 2010. Annual expenditure per student from primary to tertiary education, including research and development activities, was USD 11 652 in 2010. In 2011, the share for education was almost 39% of the overall budget, most education funds (over 60%) being directed towards primary and secondary education. The majority of funds are used for teacher salaries.

Box B.3. Current policies on school funding and teacher pay: Flemish Community of Belgium

The Equal Educational Opportunities Policy (*Gelijke Onderwijskansenbeleid,* 2002) allocates additional teachers to disadvantaged secondary schools, measured by weighted student characteristics. Relevant indicators include:

- Educational attainment level of the mother (relevant if no secondary school diploma);
- Labour market situation of the family (relevant if welfare recipients);
- Living with travelling people such as Roma;
- Family situation (relevant if the child does not live with its parents);
- Home language (relevant if not the language of instruction).

A general support structure for schools was established to support the implementation of effective equal opportunity policies. Schools falling under the policy must focus on five areas:

- Prevention and remediation of developmental and learning disadvantages;
- Dutch language proficiency;
- Intercultural education;
- School and career guidance; and,
- Student and parental involvement.

The inspectorate monitors effective use of resources and successful implementation of equal opportunity policies.

Box B.3. Current policies on school funding and teacher pay: Flemish Community of Belgium (continued)

In 2008, a formula for the allocation of financial resources to schools was put in place and is currently in use for secondary schools. Every student who meets one or more of certain criteria (relating to home language, educational attainment of the mother, neighbourhood and school allowance based on family income) generates extra financial resources for their school. Up to 15% of all financial resources to operate secondary schools are distributed based on these four indicators.

The Socio-Economic Status Policy replaced the Equal Education Opportunities Policy in 2012 at the pre-primary and primary levels. It integrated the allocation of additional teachers and financial resources for operating expenses into the same legal framework. The criteria used are largely the same as those used in the 2008 formula (see above). Every pupil who meets one of these criteria helps generate additional human and financial resources for the school, with a larger coefficient for Flemish schools in the Brussels area (1.11 instead of 1) and primary schools in less populated areas (1.15). About 10% of salaries and 14.5% of operating expenses are allocated to schools based on the socio-economic indicators. While schools enjoy large autonomy in allocating these additional resources, they must design a school policy plan with directions on implementing an equal opportunity and care policy.

Governance and funding responsibilities

The Flemish community consists of five provinces and 308 municipalities. As the federal government in Belgium has no real competences in education, the community[1]and implements separate education policies. It has limited fiscal autonomy and steers the provinces and municipalities. The Flemish Ministry of Education lays down the financial and legal framework, while "organising bodies" (the community government or the legal or natural person taking responsibility for the school) are in charge of the actual provision of education. As of 2010, there were over 990 bodies at the primary and over 340 bodies at the secondary level. The great majority of schools are either public (municipal, provincial or community schools) or private but government-dependent, *i.e.* funded by the government and subject to the same regulations as the public schools.[2] Most pre-primary and primary schools, whether mainstream or special, are on the same campus and often governed by the same school board.

Public and private school boards are in charge of hiring and dismissing staff, including teachers and principals, within a legal framework and statutory regulations set by the Flemish government. If the school meets the legal and quality criteria – and if staff members have the required qualifications and were hired according to the statutory regulations – teacher salaries are paid by the ministry of education. The educational network has no influence on salaries, but in rare cases, school boards opt to top up these salaries.

Formulae allocate staff to (public or government-dependent) schools based on enrolments and characteristics. Students are counted seven months before the start of the school year, ensuring predictability and security for principals. Each school receives either a teaching period package (in primary and special education) or a number of teaching periods (in secondary education). This allocation can be distributed as needed among the levels, branches of education and courses of study. For staff allocations, each student is worth a percentage of a teacher and supporting staff. The first 18

students in primary education generate more teaching hours than the following. Teaching hours are 26 at primary, and 20 to 22 at secondary level.

Teaching staff has equivalent status to civil servants with regard to tenure and entitlement to state pensions. Tenure is possible after several years of teaching, but only if there are vacancies for particular qualifications.

The teaching profession in Belgium (Flemish Community)

In 2011, the Flemish community had about 36 700 primary, 20 000 lower secondary and 46 700 upper secondary teachers. According to TALIS 2013 results, Flemish primary and lower secondary teachers have one of the highest levels of satisfaction regarding their status in society as 45.9% of teachers agreed that the teaching profession is valued by society (compared to the average of 30.9%).

The majority of teachers enter the profession after three to five years of training, including teaching practicum. They must have a tertiary qualification. However, in 2013, only 65% of primary, 82% of lower secondary teachers and 79% of upper secondary teachers who were entering the profession possessed the required qualification, which is rather low compared to OECD countries with available data. While a bachelor's degree is more common in primary and lower secondary education, master's graduates teach at upper secondary level. Bachelors are trained under a concurrent model, meaning that a student takes academic subjects and pedagogy/didactics courses simultaneously. In contrast, master's qualifications are organised under a consecutive model, where a student first obtains a qualification in one or more subjects and then continues their studies to obtain an additional qualification in teaching. Vocational teachers need the respective subject qualifications, several years of professional experience and a teaching qualification. Candidates who have already obtained a tertiary degree or have relevant professional experience may follow a special teacher training programme.

There is no legal or financial framework for an induction period, although individual schools may have tutors to coach young graduates. All schools receive earmarked resources to pay for professional development activities.

All school heads and their deputies, teachers and administrative staff have tailored job descriptions listing core responsibilities, tasks and functions of the position. These also detail the competences and skills needed to carry out the job successfully. All staff is evaluated every three or four years. Positive evaluations do not entail any financial consequences or rewards, but after two negative evaluations, staff may be dismissed. Principals have great flexibility in allocating staff transferring or reallocating teaching hours to other schools within the community of schools or to the following school year.

There are no government regulations for class size. Schools have flexibility in organising the curriculum and allocating staff to groups of students. School leaders and their teams, after consultation with the school community, decide how to allocate teachers to students. Student-teacher ratios in the Flemish community are rather low. In 2011, there was one teacher for 12.7 students at primary level, 8.5 at lower secondary level and 10.2 at upper secondary level. In 2012, net teaching time of Flemish

teachers was slightly below the OECD average *i.e.* 748 hours in primary, 652 in lower secondary and 609 in upper secondary education, compared to 782, 694 and 655 hours respectively. In general, teaching loads are flexible as teachers may perform equivalent tasks.

In 2011, the Flemish Community had a relatively young teaching force: over 22% of primary and over 17% of secondary teachers were younger than 30 years. The high share of young teachers was coupled with a rather low proportion of ageing teachers as 21.7% of primary and 29.7% of secondary teachers were over 50 years old. The majority of teachers were female: 81.6% in primary, 62.2% in lower secondary and 61.7% in upper secondary education. At the same time, the share of female principals was also higher than 50% in primary education (53.1%), but women were underrepresented in senior positions at the secondary level where only 36.1% of principals were female.

Teacher remuneration in Belgium (Flemish Community)

Salary scales and other financial rewards are laid down in collective agreements following negotiations among the government and the major unions. This excludes school boards as teachers' employers.

The basic criteria that determine the salaries in primary and secondary education included in the salary scales are position (headmaster, teacher, administrative staff), qualifications (bachelor or master), level (primary or secondary), school type (mainstream or special) and seniority. Additional payments are uncommon, although there are exceptions with regard to special school teachers and teaching additional classes (which increases the base salary). On the other hand, participation in professional development activities, teaching in disadvantaged neighbourhoods, outstanding performance in teaching, age, coaching special activities, and assuming management responsibilities in addition to teaching do not have any effect on teacher salaries. There is little flexibility in the system to reward excellent teachers. In theory, school boards could financially reward excellent teachers but this option is rarely exercised.

Statutory teacher salaries in the Flemish community were above OECD and EU21 averages in 2012, with an especially large gap for upper secondary salaries. Primary and lower secondary teachers earned between USD 33 667 and USD 58 340, and upper secondary teachers between USD 42 065 and USD 73 875 per year. Average actual salaries were roughly USD 10 000 lower than the statutory maximum salaries. It takes, on average, 27 years of experience to reach the top of the salary scale. Salaries are increased annually in the first three years of teaching, aiming at making the profession an attractive career choice. Later increases occur every two years. Between 2000 and 2012, salaries rose only modestly (9% in primary and ranging from 5 to 6% in secondary education). With regard to actual wages in 2012, Flemish primary teachers earned 11% less and lower secondary teachers 13% less than comparably tertiary-educated workers, while upper secondary teachers on average earned 13% more than other tertiary-educated workers. The percentages for primary and lower secondary teachers roughly corresponded to the OECD averages, but upper secondary teachers' salaries were considerably above the OECD average (92% of comparably educated workers).

NOTES

1. Belgium has three different communities: Flemish, French and German.

2. Organising bodies are organised in three networks: community education (GO! Education of the Flemish Community), subsidised official education (municipal and provincial councils) and subsidised private education.

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Korea

Introduction

With 7.3 million students in 11 500 schools (primary to upper secondary level, including 150 special schools), Korea's education system is relatively large, partly due to the very high levels of secondary enrolment. Korean 15-year-olds were the OECD top performers in mathematics in PISA 2012, and among the overall top performers in reading and science, showing significant improvement in science and reading since 2000.

The share of GDP devoted to education, 7.6% in 2011, is among the highest in OECD countries (OECD average of 6.1%) and increased by 1.5 percentage points between 2000 and 2011. While primary, secondary and post-secondary non-tertiary education is primarily funded from public sources (80.7% in 2011), the share of private expenditure of 19.3% is among the highest in OECD countries, mainly as a result of large household contributions *e.g.* for private tuition for college entrance examinations. Spending per student in 2011 was around the OECD average for upper secondary education (USD 9 698). However, per-student spending was below average for primary (USD 6 976) and lower secondary education (USD 6 674), compared to the OECD averages of USD 8 296 and USD 9 377 respectively. Per-student expenditure in primary, secondary and post-secondary non-tertiary education increased considerably to far above the OECD average between 2008 and 2011. The 2014 state budget allocates KRW 50.7 trillion to education (excluding education grants of KRW 9.8 trillion), around 14% of overall government expenditure.

Prior to 2004, the Korean government focused on closing, rather than maintaining small schools with less than 180 students. Schools often opted for integration into hubs wherein several schools are grouped and administratively led by one of them. Attention is now focused on improving the quality of small rural schools, including financial support and promoting boarding schools as well as school cooperation. Critics argue while some schools were heavily supported, others lost large numbers of students.

Box B.4. Recent policies on teachers: Korea

In 2010, Korea launched the National Teacher Professional Development and Evaluation System (NTPDES) to improve teacher effectiveness and provide customised professional development for teachers. Korea is also broadening its evaluation and assessment framework to encompass the whole education system, including teacher appraisal and evaluation of principals. Data collection and management are provided by the National Education Information System (NEIS), the School Information Disclosure System, and statistical surveys of education. Measures are being taken to link the systems so policy makers can better understand what is happening in schools rather than looking at the outcomes of educational administrative bodies. Moreover, efforts are being made to link data collection/management systems with the evaluation systems.

Source: OECD (forthcoming), *Education Policy Outlook: Making Reforms Happen*, OECD Publishing, Paris.

Governance and funding responsibilities

Korean education policymaking is organised at three levels: central, intermediate (regional) and local, with strong centralising tendencies. The Ministry of Education (MoE) plans and coordinates educational policies for all education levels, publishes and approves textbooks, provides administrative and financial support for the school system, supports local education offices and national universities, operates the teacher training system, and is responsible for overseeing lifelong education and developing human resource policies. The education budget is overseen by the Social Affairs Budget Bureau in the Ministry of Strategy and Finance (MoSF) which determines medium- to long-term goals for education and culture, and proposes and executes the related budget.

Starting in the early 1990s, the ministry delegated budget planning and administrative decision making to sub-central authorities in an effort to decentralise the education system. Sixteen regional (seven metropolitan and nine provincial) education offices, operating separately from the general regional administration, establish or close schools, manage the curriculum, and issue regulation based on the national policy and regional need. Roughly 180 county (municipal) offices of education guide and supervise primary and middle schools. All education offices are managed by a superintendent and an elected board. Their decisions must be approved by local councils. Within the centrally defined scope, schools and their school councils have relatively low autonomy over areas such as curricula, budget and staff allocation.

Public funding for primary and secondary schools issues from the central government and local education authorities, as well as from student tuition fees (in secondary education).[1] Central-level funding is allocated to offices which control primary and secondary school education. The ministerial budget consists of the general fund and special funds for loans, state-owned property, the management of rural area taxes, organisational management and local education funds[2].

In accordance with the principle of autonomy of education, county and regional offices of education are financed separately from general local finance. Their funds issue from a special account for educational expenses established under the Local Education Government Act. Local governments' education budgets come primarily from central government subsidies and grants, but also from the regional offices and from independent sources such as tuition. Central government subsidies are transferred as a lump sum and are calculated according to a formula accounting for the number of students. As funds from the special account are not earmarked, local offices may decide on their distribution autonomously.

Schools may also receive public subsidies for certain support programmes provided by the central government and local educational authorities, including after-school programmes, support for schools without private tutoring and academically underperforming schools. In addition, schools receive expenses for serving as policy research schools or pilot schools in government programmes.

Teachers are civil servants in Korea. Teacher policy falls under the responsibility of the central administration that directly funds teacher salaries in elementary and lower secondary education. Costs for teaching personnel and other staff accounted for roughly 59% in the 2012 budget. Teachers are hired by the sub-central education authorities and assigned to schools.

The teaching profession in Korea

The 419 450 teachers in Korea's primary and secondary schools (ministry data from 2010) enjoy high respect within society and favourable working conditions. Teaching is one of the most popular career options among graduates. On TALIS 2013, 66.5% of lower secondary teachers in Korea agreed that the teaching profession is valued in society. This is one of the highest figures among participating countries and far above the average of 30.9%. At the same time, a lower proportion of teachers (63%) than the TALIS average (78%) would choose to work as teachers if they could decide again.

Primary and secondary teachers must have a tertiary qualification in education, obtained after four years of initial training including a teaching practicum. The practicum is necessary to become a fully qualified teacher, *i.e.* to obtain a license. Public school teachers are selected and appointed based on a competitive examination by the provincial education offices. These examinations include writing and practical tests.

Teachers usually start at grade level 2. Teachers may obtain certificates through in-service training to advance to higher grade levels. They may progress to become a grade 1-level teacher and subsequently may assume vice-principal and principal positions, although this is relatively rare. While this training is not compulsory to remain employed, Korean teachers reported an above-average participation rate on TALIS 2013. Teacher appraisal is universally applied at the lower secondary level (100% participation rate in TALIS 2013) and aims at supporting continuing professional development. It is also used for decisions on promotion or transfers and, eventually, higher salaries. Under the Performance-based Incentive System (introduced in 2001), teachers receive allowances determined by the evaluation of a special committee. In 2009, virtually all schools applied a share of 30% for level-differentiated payment. Selected schools receive central subsidies for these allowances.

Korean schools have among the largest class sizes among OECD countries, with 25 students at primary and 33 at secondary level on average, compared to OECD averages of 21 and 24 respectively (2012). The student-teacher ratio in 2012 was also above average for all education levels: at lower secondary level, for instance, the ratio was 18, compared to an OECD average of 14. Class sizes have decreased slightly compared to 2011, as a result of government efforts to reduce the number of students per class. At the primary level teachers spent on average 694 hours teaching in 2012, which is below the OECD average of 782 hours. Teaching time in lower and upper secondary education (568 and 549 hours) was also considerably below the OECD averages of 694 and 655 hours respectively.

Korea has a relatively young teaching workforce. In 2012, 22% of primary teachers were less than 30 years of age, compared to an OECD average of 13%. The share of young teachers in secondary education was also slightly above OECD averages. Few teachers were 50 years or older: at the primary level, the share of primary teachers in this age group amounted to 16% (compared to the OECD average of 27%), and to 21% and 26% at lower and upper secondary levels, respectively (compared to 30% and 28% on OECD average). The shares of teachers approaching retirement (60 years or older) are among the lowest observed. Korea also has above-average shares of male teachers at primary and upper secondary levels. In 2012, over one in five teachers (21%) was male at the primary level, compared to the OECD average of 18%. At the lower secondary level, nearly one in

three (31%) and at the upper secondary level, more than half of the teachers (52%) were men (50% in general programmes), while OECD averages were 33% and 43% respectively.

In recent years, a shortage of primary teachers coincided with an oversupply of secondary teachers. Fertility rates in Korea are some of the lowest worldwide and, indeed, the lowest among OECD countries. A 2008 projection estimated a 30% decline of the secondary school population by 2020 compared to the 2005 level, which will affect the demand for teachers.

Teacher remuneration in Korea

The salary scale for primary and secondary teachers and administrators (*e.g.* principals) is based on a single wage scale, meaning that teachers with the same academic background and level of seniority earn similar basic wages regardless of their school's education level (primary or secondary). Additional allowances are versed to teachers who assume leadership positions (*e.g.* department head).

Primary and secondary teachers in Korea earned above-average salaries in 2012, with a wide gap between starting and top salaries. Starting with roughly USD 28 500, they could expect to receive close to USD 80 000 at the top of the scale. Lower and upper secondary school teachers with 15 years' experience and minimum training earned USD 50 040, significantly more than the OECD average of USD 40 570 for lower secondary and USD 42 861 for upper secondary teachers. With the same level of experience and training, primary school teacher salaries amounted to USD 50 145, compared to the OECD average of USD 39 024.

One specificity of the Korean wage scale is that starting salaries are lower than the OECD averages (for instance, more than USD 2 000 in lower secondary and almost USD 4 000 in upper secondary education), but maximum salaries are significantly higher and among the highest paid in OECD countries. The high maximum salaries are balanced by a very long time period needed to reach the top: in lower secondary education, the maximum earning is reached after 37 years of service, one of the longest periods among OECD countries and far above the OECD average of 24 years. Korea is one of the countries where teachers earn more than other tertiary-educated workers (comparing the statutory wage scale), with the most favourable ratio of all OECD countries in primary education (1.36 at all education levels, far above the OECD averages), which evidences the importance society places on the teaching profession and contributes to its attractiveness.

Benefits to enhance the financial status of teachers include tuition support for their children in secondary schools, no-interest loans for the tuition of their children in universities, and loans for living expenses.

Teacher salaries were frozen between 2008 and 2010 as a consequence of the economic downturn, and fell by 6% in real terms during that period. In 2011 and 2012, salaries had increased slightly.

NOTES

1. Private education institutions receive public funding, but also rely on tuition and other private fees.

2. The Local Finance Equalisation Scheme guarantees the supply of public goods as it allows the central government or regional governments to transfer financial resources to local governments with a weak revenue base.

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Netherlands

Introduction

The Netherlands have about 8 000 primary and secondary schools educating 2.57 million students. Fifteen-year old students in the Netherlands performed significantly above-average on PISA 2012 with decreasing mathematics scores across PISA cycles. Spending on education as a percentage of GDP was slightly above the OECD average in 2010 (6.2% compared to 6.1%), following an increase by one percentage point between 2000 and 2011. Most funds in primary, secondary and post-secondary non-tertiary education (86.6% in 2011, compared to the OECD average of 91.4%) issue from public sources. Household spending on education is low. Annual expenditure per student in 2011 was slightly below the OECD average for primary education (USD 8 036 compared to USD 8 296), but expenditure was far above average in lower and upper secondary education: USD 12 031 and USD 12 171 were spent per student at these levels, compared to USD 9 377 and USD 9 506 at the OECD average.

Recently, education policy in the Netherlands has focused on supporting gifted students through special school programmes, catering for special needs students, and improving teacher quality and professionalism.

Box B.5. Recent policies and legislation on teachers and school funding: The Netherlands

In November 2007, the Dutch government launched the Action Plan Teacher of the Netherlands (*Actieplan Leerkracht van Nederland)*. This action plan contains measures to address qualitative and quantitative teacher shortages. Apart from financial investments in teacher salaries, the length of the salary scale was to be reduced from 18 (yearly) steps in 2009 to 15 in 2011 in primary education; and from 18 steps in 2009 to 12 in 2014 in secondary education. Teachers already at the pay scale maximum receive an allowance.

The government's current Action Plan on teacher policy, Teaching 2020: A Strong Profession, highlights the importance of increasing teacher professionalism. Measures intended to contribute to this goal include the establishment of a professional registration process and the implementation of enhanced staff policies. The action plan particularly highlights the importance of building teachers' professional competencies in results-oriented work.

The government has furthermore launched the Teachers' Agenda 2013-2020 with the aim of retaining good teachers and improving their quality career prospects. Its objectives are:

- Better students in teacher training;
- Better teacher training;
- Attractive and flexible learning routes in teacher training;
- A good start for new teachers;
- Permanent improvement of the quality of schools/schools as learning organisations;
- Qualified and skilled teachers;
- A strong professional association.

Box B.5. Recent policies and legislation on teachers and school funding: The Netherlands (continued)

In 2012, the government introduced performance-based budgeting in general and vocational secondary education. With the aim of boosting performance of students, teachers and school leaders, performance-based budgeting will provide schools with additional funding if they reduce the drop-out rates. Low-performing schools will receive less funding.

The National Agreement on Education (2013) among education stakeholders comprises common goals on quality improvement that are worked out in specific sub-agreements. Themes include teacher policies (attracting the best teachers to education, labour conditions) and the overall governance of the system.

Sources: Dutch Ministry of Education, Culture and Science (2007), *Actieplan LeerKracht van Nederland*, www.rijksoverheid.nl/documenten-en-publicaties/brochures/2007/11/01/actieplan-leerkracht-van-nederland.html; OECD (2014), *OECD Reviews of Evaluation and Assessment in Education: Netherlands 2014*, OECD Publishing, Paris; OECD (forthcoming), *Education Policy Outlook: Netherlands*, OECD Publishing, Paris.

Governance and funding responsibilities

Education governance in the Netherlands is strongly decentralised. Since the 1980s, following the principle of freedom of education, Dutch schools have acquired increasing levels of responsibility while local governments play only a minor role. Responsibilities of the Ministry of Education, Culture and Science relate mainly to setting legislation and determining the structure and funding mechanisms of the education system. The ministry does not prescribe how policy objectives should be pursued.

School leaders and school boards are responsible for the organisation of the school, including the management of personnel and resources, the organisation of instruction, and the quality and evaluation of education. School boards are comprised of volunteers and/or professional managers. They can be responsible for more than one school, which facilitates inter-school cooperation. Eighty-six percent of decisions about a wide range of aspects of lower secondary education are taken at the school level, compared to an OECD average of 41%. This includes decisions concerning the organisation of instruction, and the management of resources and staff. Since 1995, all teachers are employed by the school board rather than by a particular school, which means they can be more easily transferred to another school governed by the same board. Teacher recruitment and dismissal is done by the school boards, but they may delegate this task to the school principal through a management contract.

The Ministry of Education, Culture and Science provides funding to all education levels, with equal funding for public and private schools. The school funding formula includes several components: number of students, grade level supplements, curriculum aspects (such as teaching Friesian language in Friesland), student characteristics (*e.g.* parental education level) and school-specific factors (*e.g.* school size or location). The block grants are not earmarked and are distributed by the school boards. Municipalities may provide additional funding for specific purposes, for example for reducing dropouts (performance-based funding). Decreasing student populations may lead to a reduction of municipal school funding. Schools receive additional funding to address the needs of specific student populations. For example, if possible, special education needs students are mainstreamed in schools through the provision of additional targeted funding outside the formula.

Since January 2014 additional funds for students with special needs are provided to school boards that have formed a collaboration agreement (*samenwerkingsverband*). These schools jointly determine how they use the money as efficiently as possible in the classroom.

In addition, in 2012 the government introduced a "Performance Box" (*prestatiebox*) for primary and secondary education. On top of the block grant, schools receive an amount which they can use for the following: literacy and numeracy, science and technology, cultural education in primary schools, talent, or professional development of teachers and school leaders.

The Netherlands is the only OECD country where the entire salary system for teachers and school principals is the responsibility of both unions and employer organisations, even if the centre plays a role by setting the financial framework. Teachers in public schools have civil servant status while teachers in private schools have salaried employee status. Teachers may be employed on open-ended or fixed-term contracts (for a maximum duration of three years). The conditions of service and legal status of all school personnel are determined at a decentralised level in sectorial collective agreements.

The teaching profession in the Netherlands

The education sector is a major employer in the Netherlands, comprising more than 6% of all jobs. More than 222 000 primary and secondary teachers work in Dutch schools (2012 figures), 40% of these in primary and 25% in secondary education. While TALIS 2013 results indicate that teachers do not feel as highly valued as in Korea or Finland, about four out of ten teachers perceive their profession to be valued by society, a figure above the average of 30.9%.

The Education Professions Act (2006) prescribes that teachers may only be appointed if they hold a higher education certificate indicating that they meet the competency standards. Primary teachers must successfully complete a four-year higher professional teacher education programme, which focuses on the teaching practice and includes practical training. They must also pass language and mathematics examinations. Secondary teachers either follow a higher professional teacher education programme (four to five and a half years) or a postgraduate programme after completing a subject-based bachelor's degree. Training grants are available for teachers to obtain further qualifications, *e.g.* a master's degree which is currently held by 20% of graduates entering the teaching profession.

Teaching standards are regulated under the Education Professions Act to guide the teaching profession. Schools and training institutions develop teacher training and induction programmes, and schools are required to have support programmes available to new teachers.

Teaching time is above the OECD average for primary and secondary education. In 2012, Dutch primary teachers spent 930 hours teaching, compared to the average of 782 hours. Likewise, teaching hours for lower and upper secondary teachers (750 hours) surpassed the OECD averages of 694 and 655 hours. Class size in primary education was above the OECD average in 2012 (23 compared to 21), as was the student-teacher ratio: 16 at primary and lower secondary and 19 at upper secondary level, compared to the OECD averages of 15, 14 and 14. The ratio at upper secondary level is one of the three highest among OECD countries with available data.

The Netherlands have a relatively young teaching force in primary education. The share of primary teachers under 30 years of age reached 19% in 2012, above the OECD average of 13%. At the same time, the share of teachers 50 or older is above average, especially in secondary education where 42% of lower and 51% of upper secondary teachers belonged to this age group in 2012, compared to the OECD averages of 32% and 38% respectively. Half of Dutch secondary teachers were male in 2012, far above the OECD averages of 33% for lower secondary education and 43% for upper secondary education, while their share at primary level (15%) is below that of the OECD average (18%). Despite a recent increase in numbers, women are still underrepresented at senior positions.

While student enrolment in primary education has declined recently, secondary enrolment has increased, with the government expecting teacher shortages in secondary education until 2020. In primary education, increasing retirement rates are expected to compensate a drop in student numbers for the coming years. On the other hand, TALIS 2013 results reveal that almost 75% of lower secondary teachers work in schools where principals report a shortage of qualified teachers. The number of vacancies is currently lower than a few years ago, but normally, recent graduates find a teaching job within six months after graduation (80% of primary teachers and almost 75% of secondary teachers). To address teacher shortages, the government has opened new routes into the teaching profession, such as Teach First (*Eerst de klas*), lateral entry, educational minors at university and academic teacher training.

Teacher remuneration in the Netherlands

Except in the primary sector, some aspects of pay and working conditions are now regulated per sector, as provided for by various education acts and a sector-specific framework decree. The social partners (employers' organisations and trade unions) conclude collective agreements without the mediation of the government.

The Netherlands have a multilevel career structure for teachers, with two levels in primary education and three levels in secondary education. In 2014, there were 15 salary steps in primary education and 12 salary steps in secondary education. Advancement on the salary scale is based on qualifications, experience, performance reviews and responsibility for additional roles and tasks. The government's functions mix policy aims at a balanced combination of teachers at different career levels within each school, for which public funding is allocated to schools.

An underlying principle of teacher remuneration is that work at higher salary scales is more demanding in terms of level and complexity, as stipulated in the Teacher of the Netherlands (*LeerKracht van Nederland)* agreement. Schools and institutions may define their own criteria in accordance with the applicable collective labour agreement. One objective of the Dutch government is to accelerate career progression by increasing incremental salary steps and at the same time reducing their number. Teachers who have reached the top of their salary scale may receive a scale extension allowance.

Teacher salaries in the Netherlands are high compared to international standards, but lower than those of other tertiary-educated professions. In 2012, salaries for primary teachers ranged from USD 37 104 (starting salary) to USD 54 865 (top salary), compared to the lower OECD averages of USD

29 411 to USD 46 909. Lower and upper secondary school teachers could expect to earn between USD 39 249 and USD 68 064 which was also above the OECD averages, especially at the upper end of the salary scales (maximum OECD average salaries in lower and upper secondary education: USD 40 570 and USD 42 861, respectively).

Despite these high figures, actual teacher salaries are not competitive nationally. Primary teachers merely earned 69% of the average salary of a 25-64 year-old tertiary graduate (below the OECD average of 85%), while secondary teachers earned 82% (below the OECD averages of 88% and 92% in lower and upper secondary education respectively). Contrary to the OECD average, teacher wage scales have different slopes according to education level. In 2012, the maximum salary in primary education was 48% higher than the starting salary in 2012, which was a lower ratio than the OECD average (61%). The difference was 73% in secondary education, due to the three different salary scales for secondary education, and above the OECD averages of 61 and 62% (for lower and upper secondary levels). While on average, the maximum salary in lower secondary education is reached after 24 years, it takes only 14 years in the Netherlands, which is among the shortest timeframes observed.

On top of the basic monthly salary, teachers receive holiday allowances, single payments at the end of the year, income allowances and an allowance for teachers' day. Most teachers at the top of the scale receive a further allowance.

While teacher appraisal is mostly for training purposes, it may also have consequences for careers or salary advancements depending on internal regulations and practices of each school and school board.

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New Zealand

Introduction

New Zealand's 760 000 students are educated in 2 600 schools, comprising a rather small education system compared to other OECD countries. During PISA cycles, 15-year-olds have consistently excelled in reading, mathematics and science. New Zealand's 7.5% spending on education as a percentage of GDP in 2011 was far above the OECD average of 6.1% with most funds spent on primary and lower secondary education. Primary, secondary and post-secondary non-tertiary education is mainly funded by public sources; 88.8% in 2011, which is slightly below the OECD average of 91.4%. In 2011, spending per student was below the OECD average in primary education (USD 8 084) and lower secondary education (USD 8 670), but above average in upper secondary education (USD 10 023, compared to USD 9 506).

Box B.6. Recent policies on teachers: New Zealand

An amendment to the Education Bill (2014) established the Education Council of Aotearoa New Zealand (EDUCANZ) as the new independent professional body for educators. Its aim is to make the teaching profession more reputable and to highlight the importance of quality teaching for student outcomes. The council will have power to elaborate a code of conduct for teachers.

New Zealand will introduce four new roles within schools in 2015, with the aim of improving achievement for all students: Executive Principal, Expert Teacher, Lead Teacher and Change Principal. These roles will provide teachers with opportunities for advancement within the classroom and embed a system-wide means of sharing expertise across schools. Each role will attract significant additional remuneration for a fixed term (apart from Lead Teachers, which are permanent roles and will be paid an additional allowance of NZD 10 000 a year) and help recognise the most effective teachers and principals. The roles are to be underpinned by professional standards. In addition to these new roles, all schools will be given additional funding to provide classroom release time for teachers to work with the expert and lead teachers on professional practice.

Source: EDUCANZ (2014), http://www.educanztransition.org.nz/; New Zealand Ministry of Education (2014), *Investing in Educational Success*, http://www.minedu.govt.nz/~/media/MinEdu/Files/TheMinistry/EducationInitiatives/MOEInvestingInEducationalSuccess.pdf.

Governance and funding responsibilities

Education policy is steered by the national Ministry of Education, but schools enjoy considerable autonomy. The ministry sets educational goals and guidelines. It also provides operational, salary and property funding for school boards based on a formula. Regarding teachers, it sets guidelines and administers the payroll.

Operational funding grants take into account school characteristics broken up into different components, including student and school characteristics, and curriculum aspects:

- Base funding to compensate smaller schools for diseconomies of scale based on student numbers. Rates vary by school type as well as the number of students enrolled. Boards may receive base funding of a fixed amount, or a fixed amount reduced by a rate per pupil;

- Universal per-student funding, set at four different levels according to the varying costs of education delivery;

- Special education grants for students with moderate needs (learning and behaviour difficulties), as well as class funding in special schools;

- Facility maintenance (heat, light and water);

- Funding based on socio-economic factors (Targeted Funding for Educational Achievement, TFEA). Schools with a high degree of socio-economically disadvantaged students have a low decile ranking which entitles them to additional funding;

- Curriculum-based factors (Maori-language programmes);

- Targeted Funding for Isolation (TFI). An isolation index is calculated for each school using the following formula: 0.8 x the school's distance in kilometres from the nearest population centre of 5 000 or more, plus the school's distance in kilometres from the nearest population centre of 20 000 or more, plus 0.4 x the school's distance in kilometres from the nearest population centre of 100 000 or more. The total divided by 100 produces the index. Mainland schools with an isolation index of 1.65 or higher receive targeted funding for isolation. This is calculated using the formula: Base + (isolation index x roll x per-pupil rate). Schools on designated islands are given a notional isolation index, based on their relative isolation compared with mainland schools.

Teachers are employed by the school boards, but are mostly funded by the central level. The number of funded teaching staff (entitlement staffing) is determined by the ministry on 1 March of each year, based on enrolment numbers and topped up by an entrant adjustment to estimate the number of new enrolments between 1 March and the start of the school year in October. Entitlement staffing is made up of curriculum, management and additional guidance staffing[1] and also drives the calculation of salary units. Curriculum staffing is based on student numbers (taking into account Maori-language teaching) and Maximum Average Class Sizes (MAC), which ensures that schools with fewer than 176 students will have curriculum staffing of at least one teacher to every 25 students (1:25).[2] The result of this calculation is compared with the school's Guaranteed Minimum Funded Staffing (GMFS) or Assured Entitlement Staffing (AES). Beyond entitlement, additional staffing is provided in response to identified specific needs. Teachers may also be employed from a board's operational funding and locally raised funds. The Banking Staffing policy allows boards flexibility to manage their annual staffing entitlement and usage. Additional teacher-specific staffing allowances (time allowances) are available for first- and second-year teachers, teachers trained overseas, retrained teachers and teachers acting as mentors.

New Zealand maintains a network of small rural schools (often called area schools) which receive additional funding based on the isolation index (see above). In 2012, 11.5% of all public school teachers taught at rural schools. Area school teachers have their own collective salary agreements. Reflections on the appropriate size of schools started decades ago and, in 1991, the government

commissioned a review of the economic and educational viability of small schools. Between 1999 and 2006, 148 primary and secondary schools in rural areas were closed.[3] In 2006, while the proportion of students going to rural schools was at 8.2%, 30% of all public schools were rural. If a student meets certain criteria related to geographical circumstances, the Ministry provides free education through remote schooling at the Correspondence School (Te Kura). This concerns primary and lower secondary students whose families live more than 3.2 km or 4.8 km respectively from the nearest school or bus route, as well as students whose school is located behind a geographic barrier. In 2008, Te Kura established a regional learning delivery and support model, and the school provides in-region support, with staff working directly in local communities.

The teaching profession in New Zealand

In 2012, New Zealand had 32 158 teachers in terms of Full-Time Teacher Equivalent (FTTE) and 2 405 principals, a slight increase from 30 000 teachers since 2004.

Teachers at all education levels undergo three to four years of pre-service training, including teacher practicum, and must have a university degree. No competitive examination is required to enter training or the profession, but teachers must meet the Registered Teacher Criteria (developed in 2010/13) to register and ensure a minimum standard. The practising certificate issued upon approval of the application for registration is needed to start teaching and become a fully qualified teacher. Teachers also undergo a two-year induction period. They are expected to align their teaching strategies and materials with the National Curriculum. Participation in professional development varies.

Ratios of students to teaching staff vary across education levels, from 16 in primary and lower secondary to 14 in upper secondary education (2012), but are very close to or at the OECD averages. Net teaching time was one of the highest among OECD countries in 2012 and significantly above the OECD averages: at the primary level, for example, net teaching time amounted to 935 hours per year, compared to the OECD average of 782 hours.

While the share of young teachers (under 30 years) was roughly at the OECD average in primary and secondary education (about 10%) in 2012), New Zealand had an above-average share of teachers aged 60 or older, as well as of teachers aged 50 or older. At the lower secondary level, for example, 14% of teachers were 60 years of age or older, compared to an OECD average of 7%, and 42% were 50 or older (OECD average: 34%). The share of male teachers is very close to the OECD averages and indicates a bias towards female teaching staff. In 2012, only 17% of teachers in primary education were male, in lower secondary education this share was 35% and in upper secondary education 41%. While women form a majority in middle and senior management, the share of female principals is below 50%.

Teacher remuneration in New Zealand

In New Zealand, teacher (and principal) salaries are determined by two-year collective agreements for the respective teacher categories (primary, secondary or area teachers), the current agreements being valid from 2013 to 2015. The starting salary depends on a teacher's qualifications. Increments occur annually for virtually all teachers,

Statutory remuneration increases with seniority and education level, but scales are flatter than in most other OECD countries. In 2012, teachers in New Zealand were paid mostly above OECD average wages (except for starting and maximum salaries). Primary teachers could expect to earn between USD 28 961 and USD 43 050, and secondary teachers between roughly USD 29 200 and USD 45 000, with little differentiation between lower and upper secondary salaries. In lower secondary education, the top salary is reached after eight years of service, one of the shortest time periods among OECD countries. However, the ratios between starting and top salaries are close to the averages: experienced primary teachers could earn up to 49% more than new teachers, lower secondary teachers 53% more, and upper secondary teachers 56% more (compared to OECD averages of 61%, 61% and 62% respectively). Actual teacher wages can compete with those of other tertiary-educated workers in New Zealand, which may help to attract university graduates into the profession. In 2011, the wages of primary teachers were 4% higher, and those of lower and upper secondary teachers were 6% and 9% higher, respectively, than the earnings of other tertiary-educated workers. This makes New Zealand one of few OECD countries where not only secondary teachers' salaries, but also the salaries of primary teachers are higher than the national wage level for tertiary-educated workers.

On top of their base salary, teachers may receive various allowances which, on average, add roughly NZD 5 900 to a teacher's base salary.

- Units can be awarded for various purposes such as recruitment or reward. They are allocated by the school board. Permanent units generate an additional NZD 4 000 a year. According to the Ministry, 43% of primary teachers, 47% of secondary teachers and 49% of area teachers are allocated units on top of their base salary.
- Role-related allowances may be awarded to Tutor Teachers, Specialist Classroom Teachers or special education needs teachers.
- Incentive allowances include those for geographical isolation (different sums depending on the grade of isolation) and for schools that have difficulties attracting staff.

Teachers are regularly evaluated; outstanding teaching may lead to additional annual payments and/or advances on the salary scale.

NOTES

1. Additional guidance staffing is made available for specific school types only (*e.g.* special or secondary schools).

2. For exact calculations of the curriculum staffing in primary and secondary education, please refer to the Ministry website.

3. Final decisions on school consolidation are preceded by consultation processes with the boards of trustees of the schools affected by the proposed change, and with the wider community. The Education Development Initiative (EDI) policy provides funding support for schools that receive students from a closing school. The funding comes from the savings to the Crown generated by a school closure.

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Ontario (Canada)

Introduction

Ontario, Canada's largest province, educates about two million students in its public system, 1.4 million in 4 000 primary and 600 000 in 900 secondary schools. The province has implemented an ambitious school improvement strategy since the mid-2000s, now entering its second phase, and it consistently achieves high scores in international assessments. Ontario's PISA performance was considerably above OECD average in 2012 in mathematics, reading and science. In 2012/13, the provincial government spent USD 17.3 billion on education (capital and non-capital investment). Per-student expenditure was at USD 9 045.

Ontario has a number of geographically isolated school districts governed by so-called School Authorities. These are generally small, often only comprising one school and few teachers. In these remote areas, split and multi-grade classes are very common.

Box B.7. Recent policies on school funding: Canada

Reforms to the school funding formula

In 2010, the School Board Administration and Governance Advisory Group (BAAG) was established to revise the funding model for district school boards, replacing the largely enrolment-based allocations with an approach that better reflects the boards' key cost drivers and cost structures. In 2014, BAAG submitted a report with recommendations. Based on this advice, the Ministry will begin to implement a new funding model for school board administration over a four-year period. The new model uses formulas for each of the ten core functions recommended by BAAG: Director of Education, Senior Administration, Director's Office, Human Resources, Finance, Payroll, Purchasing/Procurement, Administration and Other Supports, Information Technology function and Non-Staff.

As part of the School Board Efficiencies and Modernization (SBEM) process, Ontario aims at making a more efficient use of school space in the province starting from 2014/15. According to the ministry, school space could be viewed as a potential community resource that could be supported by creative partnerships. As a consequence, the provincial grants to schools will be revised, and additional funding will be provided to school boards to support consolidation and right-sizing of school facilities.

To better support staffing levels in supported schools (those far from other board schools in a school district), there will be separate calculations for the elementary and secondary portions of a combined supported school.

Reform of collective bargaining

The 2014 School Boards Collective Bargaining Act structures the two-tier bargaining process at province and local level. Financial matters, such as provincial grants to school boards, are negotiated between the teachers' unions, school board associations and the provincial government (aiming for three-year agreements), while the local level (individual school boards and bargaining agents) will be responsible for non-monetary issues (*e.g.* workload or school transfer policies).

Reducing teacher numbers

In 2013, the Ontario government adopted the introduction of a new two-year programme of teacher education in 2015-2016, replacing the one-year B.Ed. It doubles the amount of practical experience to 80 days and includes a modified core curriculum. Annual student intake will be halved to about 4 500.

Box B.7. Recent policies on school funding: Canada (continued)

Teacher pay

As the current Labour Framework with collective agreements in the sector will expire at the end of August 2014, teachers' contracts are up for renewal in the fall of 2014, after a period of salary freezes and reduced paid sick leave during the Putting Students First Act of 2012.

Sources: Legislative Assembly of Ontario (2014), *Bill 122, School Boards Collective Bargaining Act, 2014*, www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=2882&detailPage=bills_detail_the_bill; Ontario Ministry of Attorney General (2012), *An Act to implement restraint measures in the education sector*, http://www.e-laws.gov.on.ca/html/source/statutes/english/2012/elaws_src_s12011_e.htm; Ontario Ministry of Education (2014), *Grants for Student Needs Funding and Regulations for 2014–15*, www.edu.gov.on.ca/eng/funding/1415/2014B04En.pdf; Ontario Ministry of Education (2013), "Giving New Teachers the Tools for Success", http://news.ontario.ca/edu/en/2013/06/giving-new-teachers-the-tools-for-success.html; School Board Administration and Governance Grant Advisory Group (2013), *Report of the School Board Administration and Governance Grant Advisory Group*, www.edu.gov.on.ca/eng/funding/1415/BAAG_Report.pdf.

Governance and funding responsibilities

Canada has no federal department of education and is one of the most decentralised countries worldwide in terms of education policy. However, over 40 years ago Canadian ministries and departments of education created the Council of Ministers of Education (CMEC), through which provinces and territories collaborate on projects and initiatives of mutual interest through a consensus-building process.

The government of Ontario is responsible for the province's education system. This includes decisions on funding for school boards, the province's curriculum, guidelines for trustees, principals and school board officials, requirements for diplomas and certificates, and approval of learning materials. There is no interim level of administration between the province and the subordinate districts in Ontario. They work directly with one another on province-wide initiatives.

Publicly-funded schools in Ontario belong to school boards which are run by elected officials (trustees). Schools are grouped together based on location, language and whether they are Catholic[1] or public institutions. Ontario currently has a total of 72 District School Boards in four separate systems:

- English-language public boards (31);
- English-language Catholic boards (29);
- French-language public boards (4);
- French-language Catholic boards (8).

Over time, the number of districts has shrunk considerably through processes of consolidation.

Each school board is responsible for the financial and organisational operations of its schools, including determining the schools' number, size and location, building and equipping schools,

developing education programmes, managing funds, supervising school operations, and approving textbooks. The local boards also employ staff, and appoint principals and senior administrators, with school principals making recommendations to the school board on the appointment, promotion, demotion and dismissal of teachers.

In 1998, the provincial government assumed control over property tax revenues, which previously fell under the authority of school boards. Funding is allocated to school boards by the Ministry through a series of grants (Grants for Student Needs, GSN).[2] Of these grants, only special education grants are earmarked. This way, many funding decisions remain at the school board level. Funding design is redefined each year.

- Pupil Foundation Grants cover, among others, benchmark salaries for classroom, specialist and Student Success teachers, as well as material resources. They are allocated on a per-student basis.

- School Foundation Grants (for *e.g.* principal salaries) are allocated based both on student and school numbers.

- Special Purpose Grants may be added to the per-student base funding depending on student needs. The government allocates among others Special Education Grants, Geographic Circumstances Grants, Learning Opportunities Grants (supporting *e.g.* socio-economically disadvantaged students), and grants for teacher induction programmes. The Geographic Circumstances Grant is destined to small remote schools, Supported Schools (those geographically isolated from other schools of the school board[3] and eligible for special funding providing support for minimum classroom staffing), and Rural and Small Communities. The Declining Enrolment Adjustment aims at alleviating the effects of fewer student numbers on board funding. A special allocation item, the Teacher Qualifications and Experience Allocation (Q&E), provides funding to boards with teachers who earn salaries above the benchmark level used in the Pupil Foundation Grant.

Pupil Foundation Grants and Special Purpose Grants represent the largest spending items in Ontario's education budget: for instance, about CAD 10 billion are projected for each in the overall education budget (CAD 22.5 billion) for 2014/15.

Over the years, the funding formula has undergone significant changes to make it more responsive to board and student needs. These include measures to support student achievement, a shift to a more school-based funding formula, aligning grants and school board costs, updating grants by using the most recent available census data, providing better support for rural and northern schools, and improving the condition of school buildings.

Even with the Declining Enrolment Adjustment, the declining student population will affect the funding formula as a large portion of it is still linked to student numbers. The past years have already seen an increase in the number of small boards, *i.e.* those with fewer than 12 000 students. In 2008, the ministry established the Declining Enrolment Working Group to address challenges arising from changing demographics. The working group published a report with recommendations in 2009.

The teaching profession in Ontario

In the 2012/13 school year, Ontario had 115 493 full-time equivalent (FTE) teachers, of which about 63% (73 032) taught in primary and 37% (42 461) in secondary schools. They were overseen by 7 327 FTE principals and vice-principals, consisting of 5 221 primary and 2 106 secondary administrators. Staff numbers have remained stable over the last years. As in most OECD countries, teaching is a female profession in Ontario: 81% of primary and 55.3% of secondary teachers were women in 2011/12. These figures roughly correspond to the OECD averages.

Teacher training takes place in tertiary institutions, and standards for certification were traditionally set by the provinces and territories. In 1996, however, Ontario created the Ontario College of Teachers to assume these functions. The Ontario College has a 37-member governing council with 23 teachers elected by the college, and 14 members appointed by the Ontario Minister of Education. Issues such as teacher pay continue to fall under collective bargaining and are separate from the work of this self-regulating body.

The Ministry of Education funds a pre-established average class size; 19.8 at primary, 24.5 at lower secondary and 22 at upper secondary level. Boards generally aim for a class size of about 20 students at primary level. In secondary education, class sizes range from around 25 to over 30 students. While class size differs across Ontario, city areas tend to have larger classes with around 30 students).

New teachers benefit from a year-long induction programme (NTIP) with orientation elements, mentoring by experienced teachers and professional development. The teacher performance appraisal system has two components: one for new teachers, which starts at the end of the NTIP, and the other for experienced teachers. A teacher's performance is assessed by their principal in relation to pre-defined competences at the central level. Teachers with an unsatisfactory rating receive instructions on how to improve their classroom performance.

Following a short teacher retirement wave in the late 1990s, more teachers were trained than the education system could later absorb. Since 2000, the number of students that graduate from teaching programmes consistently surpasses the number of retirements, with larger discrepancies occurring towards the end of the 2000s. With the number of teacher retirements forecasted to remain stable until 2020, the situation is not likely to improve soon. Furthermore, this development is coupled with a declining student population. An Ontario College of Teachers report finds that due to the unfavourable job market situation, the number of applicants for teacher education in the province decreased in 2013. The numbers of Ontarian teachers graduating from US border-colleges and of new teachers from other regions declined as well. In 2013, first-year teachers struggled with persistent unemployment as close to 40% of graduates were looking for teaching jobs, compared to 28% reporting full employment. Of the graduates who found some work in the first year, almost one-third was successful outside Ontario or in an independent school. The substantially reduced numbers of graduates following the new teaching programme 2015/16 might allow more surplus graduates to find suitable work.

Teacher remuneration in Ontario

Benchmark salaries by the ministry for primary and secondary classroom teachers in 2012 amounted to USD 56 522[4], with the possibility of adding another 11.6% in benefits. While the government distributes funding to school boards based on these benchmark salaries, linked to specific class sizes (see above), teachers' actual salaries are determined by each school board through negotiation with the local teachers' federation, taking into account length of service. There are four umbrella unions, one for each teacher group (*Association des enseignantes et des enseignants franco-ontariens*/AEFO, Elementary Teachers' Federation of Ontario/ETFO, Ontario English Catholic Teachers' Association/OECTA, Ontario Secondary School Teachers' Federation/OSSTF), all of which serve as officially recognised bargaining bodies for their members. Union membership is compulsory for teachers in Ontario. Public sector salaries exceeding CAD 100 000 are made available online as stipulated in the 1996 Public Sector Salary Disclosure Act; this also includes some teachers sitting in school boards.

NOTES

1. Ontario only supports schools of Catholic faith, as laid down in the province's constitution.

2. More detailed information on the calculation of grants may be found in the Technical Paper 2014-15.

3. Schools are classified as "supported" in the following cases: a primary school where the next closest primary school of the board is at least 20 kilometres away; a secondary school where the next closest secondary school of the board is at least 45 kilometres away, and a combined school where the next closest secondary or combined school of the board is at least 45 kilometres away.

4. Data on PPPs used for the conversion refer to Canada.

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Poland

Introduction

With more than 30 000 educational institutions and around 5 million students, Poland has a relatively large school system. While early PISA performance was far below the OECD average, student performance scores successively increased and were above the OECD average in PISA 2012. Improvements were observed across PISA cycles in mathematics, reading and science, and across the whole performance spectrum. With 5.5% in 2011, the share of GDP devoted to education was below the OECD average of 6.1%, following a cut by 0.3 percentage points compared to 2010. Overall, spending increased between 2000 and 2011 at a slower pace than the OECD average. Expenditure on educational institutions at primary, secondary and post-secondary non-tertiary levels is mainly funded from public sources (93.9% in 2011), and the share of private expenditure is below the OECD average. Per-student expenditure was below average in 2011 and decreased at the secondary levels compared to expenditure in primary education, ranging from USD 6 223 (in primary education) to USD 5 995 (in lower secondary education) and USD 5 764 (in upper secondary education).

Box B.8. Recent policies on teachers: Poland

Wages were increased by 50% compared to the 2007 level by 2013 partially thanks to a declining number of students and teachers.

Since June 2014, teaching assistants can be employed at pre-primary and primary level. They have the same qualifications as teachers but are employed on the basis of the Labour Code (and not the Teachers' Charter).

In 2013, the government prepared changes to the Teachers' Charter in cooperation with the local government representatives responsible for the management of educational institutions and with the representatives of teacher unions. The changes are related to the expectations of the local governments which are often obliged to spend their own limited funds co-financing their educational institutions' activities. At the same time, the ministry wants to assure teachers' standing in society and to maintain a high level of educational quality and equity.

Source: Eurypedia (2014).

Governance and funding responsibilities

A decentralisation reform in 1990 created 2 500 local governments (*gminas*), and a 1999 structural reform reduced the number of regional governments (*voivods*) from 46 to 16 and created an intermediate level of administration (*powiats*), with each level having different functions. Poland has a highly decentralised education system with local governments responsible for running schools in their area. Important regulatory powers, however, remain at the central government, *e.g.* for the development and implementation of national education policy (including the budget). The system has undergone several reforms since the extension of comprehensive education in 1999. Since then important changes regarding curriculum, teacher remuneration and professional schemes, student assessments and school evaluation were introduced.

The administration of pre-primary institutions, primary schools and lower secondary schools falls under the responsibility of local authorities, while schools above lower secondary level are administered at district level. The respective authorities manage and supervise schools; for this, they receive funding from the central budget through a student-based formula which underwent a major reform in 2000. Twenty-seven different per-student allocations for secondary education were replaced by a weight of 1 for general schools and 1.15 for vocational schools. Additional grants for rural and small town *gminas* were kept. Furthermore, local governments were no longer guaranteed adjustment for decreasing student populations, which could result in grant reductions for schools. The formula is revised annually. It has different components: a basic grant for education from primary to upper secondary level, supplements with various weights and an allocation for items outside of teaching (*e.g.* boarding costs, extracurricular activities, or student financial aid).[1] As of 2007, there are 47 additive weights. The weighted elements include school and student characteristics.

Teacher salaries, promotions, and working conditions are centrally regulated by a special act called the Teachers' Charter which defines four teacher grades, obliges the central government to establish salary averages to be met by local governments and regulates payment for additional responsibilities. School principals benefit from large autonomy in terms of employment decisions and pedagogical issues, while the funds are allocated to schools by local governments. Most of the money comes from the central budget, while around 20% of the funds allocated to schools come from local governments' own income. Teacher regulations are obligatory to follow in public schools only, although the private sector remains relatively small in Poland. Since the subsidies are not earmarked, local governments enjoy certain flexibilities in spending, within central restrictions like teacher salaries, the number of lessons to be taught or the conditions set out in the Teachers' Charter.

With the demographic decline that started over a decade ago, the number of school closures in the country reaches almost 1 000 every year, entailing political and social costs. On the other hand, the funding formula creates incentives for local governments to reorganise the school network and take into account the efficiencies of teacher employment. While the number of students fell by more than a million over the last decade due to the demographic decline, this trend was not associated with a similar decline in teacher employment. One could reasonably expect that without formula funding, local governments would postpone decisions to rationalise the school network and the teacher employment even more frequently, so the observed decline in teacher employment would be even sharper, entailing greater inefficiency in the system. The recent demographic stabilisation in the past few years, combined with current reforms to increase participation in preschool education to above 90% and lowering the school starting age from seven to six years from 2014, should have a positive effect on teacher employment. TALIS 2013 shows few Polish lower secondary teachers (13%) work in schools where their principal reports a shortage of qualified or well-performing teachers compared to the TALIS average (of 38%).

The teaching profession in Poland

In 2012, Poland had about 662 000 teachers. Currently a master's diploma is necessary to be a teacher, in addition to three to five years of initial training including teaching practicum. Most of the workforce attends additional courses or takes post-diploma studies to improve their skills and to satisfy requirements for promotion. In Poland the highest possible qualification is the chartered teacher

who has 15 years of experience. In 2012 49% of teachers were chartered. Chartered teachers with outstanding professional achievements may be awarded the honorary title of education professor.

In Poland, teachers enjoy a rather low standing according to their own reports. On TALIS 2013, only 17.9% of primary and secondary teachers agreed that the teaching profession is valued in society, compared to the OECD average of 30.9%.

Over the last 20 years, the number of students constantly decreased while at the same, the overall employment of teachers also declined, albeit not at a similar rate. Between 2005 and 2012 the number of students and teachers decreased by 21% and 9%, respectively. As a result, both class size and student-teacher ratio were below the OECD average in 2012: an average class had 18 students at the primary level, compared to the OECD average of 21 (public and private institutions), and 22 at the lower secondary level (OECD average: 24). Net teaching time in 2012 was below OECD averages: primary teachers spent 633 hours teaching, compared to the OECD average of 782 hours, while lower and upper secondary teachers taught 561 and 558 hours respectively (694 and 655 hours for the OECD).

Polish teachers are relatively young. While the percentage of teachers under 30 years of age is close to the OECD averages (about one in ten teachers), only 20% of teachers at primary and lower secondary, and 28% of upper secondary teachers were 50 years or older in 2012, compared to OECD averages of 30%, 34% and 38%, respectively. The Polish teaching force, however, lacks gender balance as 85% of primary, 74% of lower secondary and 66% of upper secondary teachers (71% in general programmes) were female in 2012. These percentages are above the OECD averages of 82%, 67% and 57%, respectively.

Teacher remuneration in Poland

Polish legislation regulating teacher remuneration has not changed much since the 2000 reform. Since then, teachers are paid mostly according to their professional attainment level. Additional allowances may be granted depending on further qualifications, positive teaching appraisal, additional responsibilities, location, special education needs and overtime. All teachers receive a 13th month of salary and those working in rural areas or villages with less than 5 000 inhabitants receive an additional 10% of their gross annual statutory salary. Overall, only a small share of teacher salaries is related to seniority, additional responsibilities or extra contact hours. There is also the so-called motivational bonus, which can vary depending on the quality of a teacher's work or their support for school activities. However, local governments and school principals usually distribute available resources almost equally with only a small share allocated to provide extra incentives for the most devoted and high-performing employees.

Teacher salaries are regulated centrally. The government defines the minimum salary for each teacher and the average salary which local government has to meet for all teachers at a particular professional level in their area. The four salary grades are determined by each local government using a teacher salary index, which also takes into account the school's location.

Statutory teacher wages in Poland are among the lowest in OECD countries. In 2012, salaries started at USD 11 388 at primary level, USD 12 824 at lower secondary and USD 14 497 at upper secondary level. Contrary to earlier years, the statutory maximum salaries increased with education level: USD 18 925 for primary, USD 21 576 for lower secondary and USD 24 693 for upper secondary teachers. Surpassing statutory wages, the actual average salaries for primary, lower secondary and upper secondary teachers amounted to USD 27 986, USD 28 409 and USD 27 769, respectively. Nevertheless, all salary figures remained far below the available OECD averages. The ratios of top to starting salaries are slightly above the OECD averages, giving teachers the possibility to increase their starting salary by 66% at primary, 68% at slower secondary and 70% at upper secondary level. Lower secondary teachers can expect to reach the maximum salary after 20 years of service, below the OECD average of 24 years. Despite an increase on average by 50% compared to 2005 at primary and secondary levels, and recent government efforts, in 2012, teacher's actual salaries were 17 to 18% lower than for comparable full-time tertiary-educated workers.

Teachers take part in yearly performance management appraisals, which may impact their salaries depending on school policies. In addition, appraisals are made for promotion decisions, based on the school's policies or its development plan. This appraisal is conducted by the school principal according to procedures prescribed by law and involves the evaluation of all aspects of the teachers' performance. The appraisal serves to influence the professional development of teachers and/or inform salary decisions. A negative appraisal may lead to the termination of the employment contract, however.

Since 2006, the central government has increased salary averages, especially for teachers entering the profession, to meet the overall goal of improving average salaries by 50% (reached in 2013). This was necessary as Poland has some of the lowest teacher salaries in the OECD. Salaries for the youngest teachers were far below the expectations of potential candidates. Since the decentralisation reform in 2000, wealthier local governments use flexible parts of the salaries to provide extra money to teachers above the necessary averages, but under recent budget pressure, most of local governments try to just meet the averages and do not allocate additional resources from their own incomes.

While the funding formula provides additional money for students in rural areas, there is a built-in tension in the Polish system. Local governments have to meet average salaries that are centrally regulated. While the funds provided from the central budget are mostly based on enrolment and student characteristics, they do not take into account the number of teachers. This poses a problem especially for rural areas with many smaller schools where the funds provided for students are sometimes insufficient to fully cover teacher salaries. On the other hand, this system assures stability of educational spending at the central level and provides strong motivation for the local governments to manage their resources efficiently.

NOTES

1. A detailed description of the formula components can be found in Levačić's chapter on Polish per-capita funding in the 2011 World Bank report (see also bibliography).

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Sweden

Introduction

Sweden has a relatively small school system with 899 185 primary and lower secondary students in 4 909 institutions[1], and 1 253 upper secondary schools with 41 725 students in vocational education, 67 582 in general education and 23 554 in introductory programmes. Over the past decade, average Swedish PISA performance declined in all three core subjects – reading, mathematics and science. The scores fell from a level around or above the OECD average to below the average. More than one out of four students in Sweden does not reach the baseline level of performance in mathematics. That proportion increased significantly between 2003 and 2012. The performance decline is observed throughout the school system, among public and private schools, and among all groups of students, regardless of socio-economic status, immigrant status or gender.

Overall spending on education was slightly above OECD average in 2011 with an expenditure of 6.3% of GDP, compared to an OECD average of 6.1%. Most of these funds are spent on primary and lower secondary education. Spending per student was above the OECD average in 2011 as Sweden spent USD 10 295 per primary, USD 10 823 per lower secondary and USD 11 022 per upper secondary student, one of few OECD countries which combine an even spending pattern with a per-student expenditure above USD 10 000. In 2010, Sweden also had a cumulative expenditure of USD 95 831 on education per student from the age of 6 to 15 years, the tenth-highest level of expenditure per student among OECD countries. Expenditure on educational institutions at primary, secondary and post-secondary non-tertiary levels is exclusively funded from public sources. In Sweden, the share of students in private schools increased significantly over the past decade from 4% in 2003 to 14% in 2012. This brings the share of students in private schools close to the OECD average.

Sweden is one of the most sparsely populated countries in Europe. In 1991, the National Rural Development Agency was established to deal with the implications of spatial isolation for education and training (it has now been integrated into the Agency for Growth Policy Analysis). Also, Sweden has seven-year Rural Development Programmes whose implementation is supported by the National Rural Network which maintains a network of small rural schools, acknowledging that to keep remote areas populated, higher costs will have to be borne by the state.

Box B.9. Recent policies on teachers: Sweden

Sweden recently introduced several reforms to improve the attractiveness of the teaching profession.

In 2011, Sweden started new teacher education programmes (*Bäst i klassen - en ny lärarutbildning*), structured as four main degrees: a degree in pre-school education, a degree in primary school education, a degree in subject education and a degree in vocational education. Furthermore, stricter requirements were set for admission to teacher education, including aptitude tests, and the introduction of teacher accreditation.

Through a career development reform (2013), the government created advancement stages and provided salary increases for professionally skilled teachers in compulsory and upper secondary schools. Two new career categories for teachers, senior master and lead teacher, were also created. Through this reform, teachers can receive a salary increase of about EUR 566 to EUR 1 132 per month. Approximately one in six teachers qualifies for one of the positions.

Box B.9. Recent policies on teachers: Sweden (continued)

The Boost for Teachers (*Lärarlyftet*; 2007-2011) policy offered 30 000 teachers the possibility of advanced continuing professional education at higher education institutions. About 24 000 of them took part in this initiative. Boost for Teachers II allows registered teachers without formal teaching qualification in a particular subject or age group to take specialised courses.

In 2012, a new qualification system for teachers, designed to raise the status of the profession, was introduced. Beginning 1 December 2013, professional certification will be required for school and primary/nursery school teachers on permanent contracts. The academic requirements for certification necessitate teachers take a degree in education specialised by the type of school and age group.

Source: OECD (forthcoming), *Education Policy Outlook: Making Reforms Happen*, OECD Publishing, Paris; Blanchenay, P., T. Burns and F. Köster (2014), "Shifting Responsibilities – 20 Years of Education Devolution in Sweden: A Governing Complex Education Systems Case Study", *OECD Education Working Papers*, OECD Publishing, Paris.

Governance and funding responsibilities

The Swedish government has the overall responsibility for education and sets the framework for education at all levels. The government is supported by several agencies. The National Agency for Education, for example, supports and evaluates the work of municipalities and schools. Following an education governance reform in the 1990s, which shifted responsibilities to the local levels, the 290 municipalities with their assemblies and executive committees became responsible for providing and operating schools at primary and secondary level. They draw up education plans for funding, organisation and evaluation of schools. Post-secondary and vocational education (ISCED 4) is organised and run by a specialised agency. Most decisions in lower secondary education are taken at school or local government level.

The central government is currently investigating the consequences of local education governance, partly in light of the deteriorating PISA results. Findings suggest a mismatch between official responsibilities and the actual powers of various stakeholders. The central government has limited power to ensure compliance with national goals. At the municipal level, financial resources are often allocated based on tradition and local politics, rather than actual needs. This is in part due decision makers' misuse of available data and expert knowledge.[2]

Funding for compulsory schools is provided by the respective municipality (from tax revenues) and by the central government.[3] State funding (called "general state grant") is not earmarked and allocated to municipalities. The element of the grant related to the local structure is determined by several underlying factors such as the size of the population in the municipality, its age structure, population density, social structure and the number of immigrants. The municipality's board of education decides on grant distribution to individual schools. While municipalities are free to develop their own allocation systems, often a basic amount is determined for each student and additional resources are added for certain student characteristics.

The teaching profession in Sweden

In 2012/13, Sweden had 86 366 teachers in primary and lower secondary (compulsory) schools, and 35 023 in upper secondary schools.

While there is no competitive examination to enter teacher training, teachers are required to have a tertiary qualification obtained after four to five years of initial training including teaching practicum. Registers exist for qualified primary and secondary teachers after the introduction year. Registration is necessary to independently set grades, mentor new teachers and to have the right to permanent employment. Appraisal for registration is at the discretion of school leaders and the National Agency for Education, and occurs once at the end of an introduction period, although it may occur again in relation to decisions on employment status. While there is no obligation to undergo continuing professional development, training programmes are offered by the National Agency for Education. The state is supposed to, by means of the funds made available to the Swedish National Agency for Education, steer activities towards nationally important areas, while the school's governing body is responsible for teacher competence development.

Working conditions for teachers in Sweden include an above-average statutory working time. In 2012 student-teacher ratios stood at 12 in primary education, 11 in lower secondary education and 13 at the upper secondary level. All ratios were below the OECD averages of 15, 14 and 14 respectively. Sweden has a considerable share of teachers close to retirement age. In 2012, 44% of primary and upper secondary teachers, and 33% of lower secondary teachers were 50 years or older, while the OECD averages stood at 30% for primary, 34% for lower secondary and 38% for upper secondary teachers. At the same time, the shares of teachers younger than 30 are among the lowest observed, as less than one in ten teachers belonged to this age group in 2012. With 51%, the share of male teachers working in upper secondary education is roughly 10% above the OECD average (data from 2011).

According to the TALIS 2013 survey, less than 5% of lower secondary teachers in Sweden feel valued in society, which is one of the lowest figures observed and may pose problems for teacher recruitment and retention.

Teacher remuneration in Sweden

Sweden has implemented a radical approach to teacher remuneration. While the federal government establishes minimum starting salaries, it leaves decisions about an individual teacher's salary to be negotiated annually by the principal and the teacher. These negotiations may be based on the central agreement between the Swedish Association of Local Authorities and Regions (*Sveriges kommuner och landsting*, SKL) and the unions. If the teacher requests assistance, the teacher's union representative can participate in the negotiation. In Sweden, the centrally bargained, fixed-pay scheme for teachers was abolished in 1995 as part of a package designed to enhance local autonomy and flexibility in the school system. The government committed itself to raising teacher salaries substantially over a five-year period, but on the condition that not all teachers received the same raise. This means that there is no fixed upper limit and only a minimum basic salary is centrally negotiated, along with the aggregate rise in the teacher-salary bill.

Salaries are negotiated when a teacher is hired, and teacher and employer agree on the salary to be paid at the beginning of the term of employment. The negotiation involves:

- Qualification areas: teachers in upper secondary schools have higher salaries than teachers in compulsory schools or teachers in preschools;
- The labour market situation: in regions where teacher shortages are more acute, teachers get higher salaries. The same occurs for certain subjects like mathematics or science;
- Teacher performance: the collective central agreement requires that pay raises be linked to improved performance, allowing schools to differentiate the pay of teachers with similar tasks; and
- The range of responsibilities of teachers: principals can reward teachers if they work harder and take on more tasks than generally expected.

In 2011, actual salaries of Swedish primary and secondary teachers were mostly below the OECD average and also remained below the earnings of tertiary-educated workers. Average actual salaries show comparably small differences between primary and secondary education, as well as between seniority levels. Primary teachers earned, on average, between USD 30 695 and USD 40 709, depending on their experience. Lower secondary teachers started with USD 31 218 and could earn as much as USD 40 873, and upper secondary teachers earned between USD 32 655 and USD 43 681. Except for starting salaries, Swedish teachers earned less than their average OECD counterparts, especially the most experienced teachers at the top of the scale. The ratio of top to starting salary was far below the available averages: while primary and secondary teachers, on OECD average, could earn 61 to 62% more than new teachers at the upper end of the salary scale, this percentage was roughly halved in Sweden. As of 2011, actual teacher salaries were still 13% (upper secondary level) to 18% (primary and lower secondary level) below earnings of tertiary-educated workers, which may contribute to the profession's low reputation.

NOTES

1. In Sweden, compulsory education (from age 6 to age 16) is organised as a single-structure schooling system.

2. For a more detailed analysis, please refer to the 2014 OECD Working Paper "Shifting Responsibilities: 20 Years of Devolution in Sweden" by the Governing Complex Education Systems project (see bibliography).

3. Special schools, as well as Sami schools (minority schools) in northern Sweden, are directly financed by the state.

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Wales (United Kingdom)

Introduction

The Welsh school system is relatively small. In January 2013 there were 464 868 students in 20 nurseries, 1 374 primary schools, 4 middle schools (which include both primary and secondary education), 216 comprehensive secondary schools and 42 special schools. There were 68 private (independent) schools, 2 more than in January 2012.

Developing an efficient and inclusive school system can be challenging and expensive, which is also the case for Wales given the geographical dispersion of its population. Small schools cater to populations in small communities and in Wales there are over 400 primary schools with fewer than 100 students. A one-form primary school with 30 students per year from the reception year to Year 6 has around 200 students. In 2012 well over half of all primary schools in Wales were below that size. These schools may be providing quality education services, but they are also relatively expensive to maintain, and often struggle to recruit head teachers. As a result of these pressures, there were 42 fewer local authority public schools (often referred to as "maintained schools") than in January 2012.

In 2012 there was a 0.2% decrease in the student population compared to the year before, in part due to the smaller number of 11-15 year-olds which has been decreasing since 2004. This trend, however, is likely to be reversed as the numbers of students aged 5 to 10 has seen a gradual increase since 2011 and the number of pupils younger than 5 has been increasing since 2006.

Between 2007/08 and 2011/12 spending on education ranged between 14 and 16% of total public expenditure, which is slightly above the OECD average (13% in 2010).

Wales performed below the OECD average on PISA 2012 in all three test subjects. Although Wales' performance in reading has remained similar to PISA 2006 and PISA 2009, it has decreased significantly in mathematics and science since 2006. PISA 2012 showed that Wales has a high proportion of low-performing students and few high-performing students. The disappointing PISA 2009 and General Certificate Secondary Education results and reports by Estyn showed that the growing concerns about the quality of education were justified. The Welsh government responded quickly with a series of far-reaching reforms that have been consolidated in the overarching Improving Schools Plan launched in October 2012.

Box B.10. Recent policies on teacher pay: Wales, United Kingdom

The School Teachers' Pay and Conditions Document and Guidance on School Teachers' Pay and Conditions are two key parts of England's and Wales's pay arrangement that, since 2003, have been combined to set out pay and working conditions for teachers and school leaders in England and Wales. It is updated on a yearly basis with the changes in pay and conditions.

The Welsh government has implemented the Professional Standards for Education in Wales which are statements of practitioners' professional values and attributes, knowledge and understanding, and skills. These were updated in 2011 and clarify the expectations at each stage of a practitioner's career and help them identify how they need to develop professionally to progress in their career. The Practice, Review and Development Process for teachers and school leaders was implemented the same year and integrates the professional standards, performance management and continuing professional development to ensure that professional development is focused on supporting quality teaching and learning.

Sources: UK Department for Education (2013), *School Teachers' Pay and Conditions Document 2013 and Guidance on School Teachers' Pay and Conditions*, UK Department for Education, www.gov.uk/government/uploads/system/uploads/attachment_data/file/271275/130806_2013_stpcd_master_final.pdf.; Welsh Government (2011), *Revised professional standards for education practitioners in Wales*, http://learning.wales.gov.uk/docs/learningwales/publications/140630-revised-professional-standards-en.pdf.

Governance and funding responsibilities

Wales is a small country that is part of the United Kingdom (UK). The National Assembly for Wales has law-making powers over 20 policy areas, including education and training. The salaries and working conditions of the education workforce, however, are currently not devolved to the Welsh government and remain a responsibility of the UK government.

The Education Act 2002 gives the UK Secretary of State for Education the power to determine the pay and conditions of employment of teachers in maintained schools provided that any such matters are first referred to the School Teachers Review Body, an advisory non-departmental public body of the UK Department for Education, for consideration. Before making a statutory order setting out the remuneration or conditions of employment, the Secretary of State is required to consult stakeholders.

The *School Teachers' Pay and Conditions Document* (STPCD) sets out the arrangements governing the pay of teachers in public schools in England and Wales which includes:

- main pay range;
- upper pay range;
- leading practitioner pay range;
- unqualified teachers' pay range;
- leadership pay scale;
- allowances; and

- other payments (including recruitment and retention payments, safeguarding, salary sacrifice).

All schools may adopt their own pay policy within the framework of this policy document. The STPCD 2013 provides for governing bodies/employers to exercise discretion on matters affecting pay determination for teachers (excluding head teachers, deputy head teachers and assistant head teachers), including in respect of teacher pay progression.

Local governments have significant responsibility for public service delivery. Each of the 22 local authorities in Wales has locally elected councils responsible for a range of services such as education, housing, leisure and social services. Local authorities are responsible for the provision of education in public schools, including the hiring and payment of teachers and school leaders. Teachers working in public schools are considered part of the civil service. Teachers working in Wales's 68 private (independent) schools, however, are not. These schools set their own pay scales.

School funding is based on the 2010 School Funding (Wales) Regulations, but each local authority in Wales has its own locally determined funding formula. The Individual School Budget is distributed by the local authorities among the schools it governs in its municipality, taking the form of budget shares. More than two-thirds of the funding (70%) is required by regulations to be based on the number of students. Student numbers may be weighted according to one or all of the following factors:

- age, including key stage or year group;
- whether a child is provided with nursery (pre-primary) education by a school;
- exact age when admitted to school and their hours of attendance in the case of children under five;
- special educational needs;
- whether a student at a school is also attending an institution within the Further Education sector; and
- whether a student is being educated through the medium of Welsh.

The remaining 30% of funding are distributed at the discretion of local authorities, taking into account a range of factors in the regulations. These include the size and condition of buildings and grounds, rates, cleaning, school meals or salaries. Local authorities are required, under Section 52 of the School Standards and Framework Act 1998, to prepare a budget statement each financial year showing the amount of education funding that will be centrally retained by the authority, the budget share for each school, the formula used to calculate those budget shares and the detailed calculation for each school.

The teaching profession in Wales

In 2012/13 there were 27 310 full-time equivalent teachers in service with local authorities, an increase of 333 since January 2012. The Welsh government manages teacher supply for public schools

in Wales by forecasting demand for newly qualified teachers and setting annual intake targets. Welsh schools face some challenges in attracting sufficient numbers of qualified staff. PISA 2012 showed that 17% of principals reported a lack of qualified mathematics teachers hindering the schools' capacity to provide instruction, for English teachers this was 10%.

The proportion of support staff in Wales is very high compared to other OECD countries. Support staff make up almost half the total school work force (23 548 individuals in 2012/13). Their roles within schools vary depending on the school leader and teachers, and include serving as a classroom assistant, teaching assistant, language assistant, administrative staff, and others. From 2003, numerous policies have aimed to improve the conditions for support staff in Wales but despite these efforts, they vary in quality, lack a clear career structure, and have limited career progression possibilities and often poor working conditions. With the new *Action Plan to Promote the Role and Development of School Support Staff in Wales* the government intends to respond to several of these challenges, including professional development, performance management and career structure.

In recent years Wales has made considerable efforts to strengthen recruitment, development and retention of teachers through various measures. These include the provision of various grants that offer incentives to graduates with "best degrees" to teach, or to attract students into key subjects where there are teacher shortages. The requirements to enter initial teacher training have also been raised to a minimum of General Certificate of Secondary Education (GCSE) grade B in English and mathematics to ensure that incoming teachers possess the necessary skills in these subjects. In addition, graduates are also assessed on their literacy and numeracy skills during their studies, with failure resulting in exclusion from teacher training.

To become a qualified teacher in a public school in Wales one must have a bachelor's degree (generalist in primary schools and specialist in secondary schools) and obtain qualified teacher status (QTS). Individuals can become teachers either by completing initial teacher training or through an employment-based route. For the former, there are two possibilities: a concurrent route combining theory and practice that lasts between three and four years, or a consecutive one where individuals pursue an extra year of professional training after earning their bachelor's degree in a subject to achieve the Post Graduate Certificate in Education with QTS. The Graduate Teacher Programme and Teach First scheme offer an employment-based way to qualify as a teacher while working.

According to the Welsh government, the student–teacher ratio in 2011/12 in public nursery schools was 15.2. In primary this was 20.7, for secondary schools and special schools this was 16.7 and 6.6 respectively. The teacher-student ratio for secondary schools stands out as it is considerably higher than the OECD average of 13.6 and the EU21 average of 12 in 2011.

In Wales a full-time teacher must be available for work for 195 days and 1 265 hours per year. Those 195 days must be specified by the employer or, if the employer so directs, by the head teacher. The regulations, however, do not state that teachers must be present at school for 195 days. This is a matter to be defined in agreement with the head teacher.

A full-time teacher has a maximum 25 hours of teaching commitment over a 38-hour work week. All teachers with timetabled teaching commitments have a contractual entitlement to planning,

preparation and assessment (PPA) time, set as a minimum of at least 10 per cent of a teacher's timetabled teaching time. This time counts towards the maximum 1 265 hours per year. PPA time must be allocated in blocks of no less than 30 minutes. It should take place during the time in which pupils are taught at the school and must not be added on before or after pupil sessions. PPA time must not be used for provision of cover or any other duties.

In 2011 the Welsh government introduced a new appraisal and performance management process for teachers and school leaders. The yearly appraisal integrates the Professional Teacher Standards, performance management and continuing professional development to ensure that professional development is focused on supporting quality teaching and learning. The Welsh government considers the new appraisal and performance management process as an essential step forward in raising the quality of Welsh teachers. Its success, however, will depend on its implementation process, and on the availability and use of quality professional development opportunities. Concerning the latter, a recent report by the OECD concluded that teacher professional development remains under-developed in both primary and secondary schools despite a range of new professional development options (*e.g.* Master's in Educational Practice for newly qualified teachers; access to a digital learning platform).

Teacher remuneration in Wales

The Education Act 2002 gives the secretary of state power to issue guidance on pay and conditions matters, to which those concerned must have regard. Since 2003 this publication has brought together the two key parts of the framework for the England and Wales pay arrangements – the *School Teachers' Pay and Conditions Document* (known simply as "the Document") and the statutory guidance. The Document (Section 2 – "the statute") and the guidance (Section 3) need to be read together to provide a complete picture of pay and conditions arrangements for teachers in England and Wales. The statutory requirements for teachers' pay and conditions for maintained schools in England and Wales are set out in the Document, and schools and local authorities must abide by them.

In Wales, public schools are bound by centrally-determined pay scales common for the pre-primary, primary and secondary levels. In 2012/13 the gross basic statutory salary for primary and secondary teachers at public schools ranged from USD 27 780[1] to USD 47 299, while the average actual salary reached USD 41 437 at primary and USD 46 455 at secondary level. The relationship between maximum and minimum annual gross statutory salaries is a pointer to the long-term prospects of teachers in terms of the salary increases they can reasonably expect throughout their careers if only their length of service is taken into account. In Wales the maximum statutory salary of teachers is 70 to 85% higher than the minimum. The average number of years that a reference teacher must complete to obtain the maximum basic statutory salary is ten years (six years on the main salary scale and an additional four years on the upper secondary scale after positive assessment against national standards).

A real-term increase in teacher statutory salaries is one of the main factors in determining whether they maintain their purchasing power. Increases to statutory salaries occur mainly due to three factors: salary reform in the education sector, cost-of-living adjustments and general salary increases across the whole public sector. However, the absolute increase in salaries is not always translated into

a real increase due to a greater rise in the cost of living. In 2013 the purchasing power of teacher salaries had remained at similar levels to that of 2000.

In Wales each teacher and school leader is part of a yearly performance appraisal and, subject to this being satisfactory, teachers move up the pay scale. In cases of outstanding performance, they may move two points up the scale. At all schools, there is flexibility to reward teachers based on performance. Progression to the upper pay scale is possible for all teachers.

As of the 2012/13 school year, experienced classroom teachers undertaking additional responsibility could receive teaching and learning responsibility (TLR) payments ranging from USD 3 262 to USD 15 948 per year. An additional allowance of no less than USD 2 575 and no more than USD 5 088 per annum was also available for taking on special education needs responsibilities.

NOTES

1. Data on PPPs used for the conversion refer to the United Kingdom.

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Teacher Remuneration in Latvia: An OECD Perspective

Teachers are the key to better learning and educational outcomes depend on their quality and professionalism. This report analyses, from an international perspective, the strengths and weaknesses of the school funding and teacher remuneration system and proposes a two-phase approach to reform. In the shorter-term relatively small changes to the current system can improve effectiveness and perceived fairness. Longer-term development will entail a significant departure from the current model. The report highlights the need to ensure compatibility between teacher policy and the education objectives of the country and foster and enhance educational quality for all students, as efficiently as possible. It provides international comparisons through previously unpublished snapshots of the teacher remuneration systems in ten selected OECD jurisdictions.

Contents

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