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Chapter 7

Case Study One: Estonian Education – Sustaining High Quality Schools

Estonia places high societal value on education. Yet, there are concerns that more needs to be done to ensure that its education system sustains high quality and equity, and that what students learn is relevant to the country's evolving social and economic needs. If Estonia is to build upon the existing strengths of its education system, it will need to work as a single government, with greater co-operation among and across levels of government. Central- and local-level policy makers will need a common vision that considers not only the school network and modernising curricula but also national and regional strategic objectives and stakeholder perspectives. Successful education system reform will require greater co-operation among municipalities, and greater cross-sectoral co-ordination and co-operation at the central level. It also calls for the delivery of education to be adapted to the capacity needs of local government and the expressed needs and preferences of local populations.

Introduction

Estonia places a high value on education, as is evident in a number of international measures. Estonian students perform well on international examinations such as the Programme for International Assessment (PISA, OECD) and the Trends in Mathematics and Science Survey (TIMSS, International Association for the Evaluation for Educational Achievement). Estonian students ranked eighth in the 2003 TIMSS (third in Europe). Of the 45 countries participating in the 2009 PISA, Estonian students ranked 8th in scientific literacy, 17th in mathematical literacy, and 13th in reading (OECD, 2010a). Estonia also ranks well on the United Nations Global Human Development Index, placing 25th internationally for levels of educational attainment (Estonian Cooperation Assembly, 2009).

Yet Estonia may need to do more to ensure the high quality and equity of its educational outcomes, and the relevance of the curriculum to evolving social and economic development needs across the country. For example, while the results of the OECD's PISA 2006 showed a relatively high equity of outcomes for students across the country, Russian-speaking students lagged behind (Kitsing, 2008). There is also evidence of educational stratification. While Estonia has a high participation rate in tertiary education, there is also a high drop-out rate (OECD, 2010a; Statistics Estonia, 2010).

The global economic crisis has had a significant impact on Estonia. Resources for education have declined, and are unlikely to increase significantly in the foreseeable future. Schools will therefore be required to make better use of existing resources. There is some evidence that the relatively high number of small schools in Estonia is not optimally adapted to meet the country's demographic and curriculum needs. Policy makers urgently need to ensure the sustainability of the education system, while maintaining and improving outcomes. This is a classic management dilemma – how to do more while facing significant budget constraints – but policy makers are also confronting fundamental questions on governance of the education system. A fragmented system, a shortage of qualified teachers, geographic inequalities, and a historic inability among municipalities to co-operate have undermined the capacity and capability of the education system to continue to deliver high-quality educational outcomes in a sustainable way.

In light of these challenges, Estonia needs to work as a single government, with greater co-operation among and across levels of government, if it is to maintain and build upon the strengths of its education system. Central- and local-level policy makers will need to develop a common vision that considers not only the school network and modernising curricula, but also national and regional strategic objectives and stakeholder perspectives. Ensuring the successful implementation of reform in the education system will also require greater co-operation at the municipal level, and greater cross-sectoral co-ordination and co-operation at the central level. In addition, it calls for the delivery of education to be adapted to the capacity of local governments and the expressed needs and preferences of local populations.

As part of the *OECD Public Governance Review of Estonia,* the Estonian Ministry of Education and Research (MoER) asked that this case study address these specific issues:

- The suitability of the current financing system for supporting general education, and alternative approaches. Is the current finance system (central + municipal funding) the most appropriate approach? In the context of Estonia's decentralised system, does it provide the appropriate incentives and support to achieve effectiveness, efficiency, equity, and transparency?
- The capacity of local governments to provide high-quality education. A related concern in Estonia is whether local governments, particularly in smaller municipalities, have the size and administrative capacity to deliver high-quality education for basic and general upper secondary schools (ISCED 1, 2 and 3).
- Alternatives for strengthening horizontal co-operation across schools and municipalities. Local governments might strengthen capacity and realise efficiencies in delivery of educational services through greater co-operation; however, there are currently few examples of this among municipal governments in Estonia. What are alternatives for strengthening horizontal co-operation?
- Effective re-organisation of basic and general upper secondary schools. What criteria should guide decisions on re-organisation, *i.e.,* how to re-draw catchment areas for schools at different levels? A related topic now under discussion in Estonia is whether to establish nationally administered general upper secondary schools.

The first section of this case study describes some basic facts and figures, the organisation of general education, and the broader economic and social context for education. The subsequent sections delve into the issues and concerns raised by the MoER, putting them in a broader governance context. Each of these sections first describes the issues for readers within and beyond Estonia, and then concludes with observations, noting the implications of current policies and identifying alternative approaches for consideration. The final major section of the report concludes with broad policy principles to guide further decision making for education policy in Estonia.

Background and context

This section introduces the context of the Estonian education system. It describes demographics and the organisation of schooling; presents intergovernmental relationships within and between the national and local levels; and links issues of importance to the education sector to some of the broader governance issues.

Facts and figures: Demographics

The overall population of Estonia is 1.34 million. Although the birth rate is now starting to stabilise, it has declined significantly in recent years; between 1989 and 1998, the birth rate halved. The school-age population was at its highest in 1997-98 at 218 000. By 2006-07, it had declined to about 157 000 students.

Following re-independence in 1991, the number of small community schools rapidly increased – just as the school-age population was declining. Municipalities re-opened schools that had been closed by Soviet educational authorities for economic reasons. By 1998, Estonia had 724 schools. That number has since declined to 559 in 2009-10 (Ministry of Education, 2010; Krull and Trasberg, 2006; Levačic, 2007).[1] Although enrolment is expected to stabilise by 2011, and to start to increase by 2016, both national and local

officials believe that it will be difficult to sustain the current number of small schools across the country.

Over 80% of Estonia's 226 municipalities[2] have populations under 6 000. The majority of Estonian communities, however, are much smaller, with populations of fewer than 3 000. These small municipalities vary significantly in terms of remoteness, density, and other factors. As of January 2011, the population of municipalities ranges from a low of 101 (Piirissaare) to a high of nearly 412 000 (Tallinn). At the same time, about 70% of the population live in the city municipalities; 37% are in the largest urban centres, Tallinn and Tartu.

Estonia is also home to a significant Russian-speaking minority. Over two-thirds (69%) of the population is ethnic Estonian, and 26% are Russian. The majority of the Russian-speaking population immigrated after WWII, although there is also a community of Old Believers who emigrated from Russian Federation in the 17th century. Estonia maintains schools with different language of instruction for such students, which serve 19.5% of the student population (Estonian Education Information System, 2010).

Roles and responsibilities

The *Basic Schools and Upper Secondary Schools Act* (BSUSS) of 1993 is the primary authorising legislation for general education in Estonia. The Act – amended in June 2010 – assigns responsibility for education provision to municipalities. Municipalities own local schools, but must apply to the national government for licenses to establish schools. Municipalities define school catchment areas, *i.e.,* the geographic area which the school serves; a single municipality may have several schools and therefore define several catchment areas. Not all municipalities have schools at every level. While the national government defines the minimum size for which it will provide funding for individual schools, municipalities may also choose to maintain several small schools within close proximity of each other.

There are four types of municipal schools: primary schools (years 1-6),[3] basic schools (years 1-9), full cycle schools (years 1-12) and general upper secondary schools, also referred to as gymnasia (years 10-12). The majority of vocational education and training (VET) schools are owned and operated by the national government.[4] About 30 private schools have been established since 1992.

Schooling is compulsory for students, starting at the age of 7, for years 1-9. Attendance in years 10-12 is optional. Of those students enrolled in ISCED level 3 programmes, 68% attend general upper secondary school (ISCED 3A), and 31.3% attend VET (ISCED 3B) (OECD, 2010a). But there is also a relatively high number of early school leavers. According to Statistics Estonia, in 2009, 13.9% of the population between the ages of 18 and 24 had no more than a lower secondary level education, and are currently not enrolled in a formal education programme (Statistics Estonia, 2010).

Counties have a weak role in regional governance. In education, this role is limited to conducting evaluations of school performance on themes decided by the MoER, and providing advice to municipal governments. Counties also develop plans for educational development, although the scope and impact of these plans is limited. This is in stark contrast to the arrangement prior to re-independence, during which time Estonia followed the Soviet model of strong county-level governments, and weak municipalities. The current governance model reverses this dynamic (Krull and Trasberg, 2006).

Box 7.1. **Roles and responsibilities for education in Estonia**

The responsibilities of the Ministry of Education and Research include: ensuring education laws are observed; elaborating requirements of the national curriculum; establishing rules on national supervision; allocating national funds for education; developing the financial norms for local and school budgets; recognising and licensing educational institutions; providing training for education personnel; and working closely with the Curriculum Development Centre at Tartu University and the National Examination and Qualification Centre. The central government sets minimum salary ranges for teachers at different levels of seniority, taking into account input and advice from the MoER, Ministry of Finance, and Ministry of the Interior.

The responsibilities of education departments within county governments include: executing national supervision of pre-primary and general education schools; formulating county-level plans for education development; disseminating information on public financing; organising cultural and educational events for students and teachers; and advising municipal governments on educational issues.

The responsibilities of municipal governments include: placement of students in pre-primary schools; general education, and schooling for students with special needs; hiring school leaders, providing support for career counselling and school psychological counselling; establishing school supervisory bodies; implementing county plans for educational development; providing support for lunch catering, medical services, and hobby groups. Municipal governments are responsible for all costs of running schools, including maintenance, renovation and construction. The national government provides significant financial support, the majority of which is used to cover salaries for school leaders, teachers and teachers' aides; and ongoing professional development.

School supervisory bodies are responsible for: discussing school development plans; selecting and recruiting candidates for the post of school leader; reviewing the school budget plan and curriculum; participating in teacher recruitment and approving school staff appointments; approving salary rates for the educational personnel as proposed by the school leader; and organising support for schools.

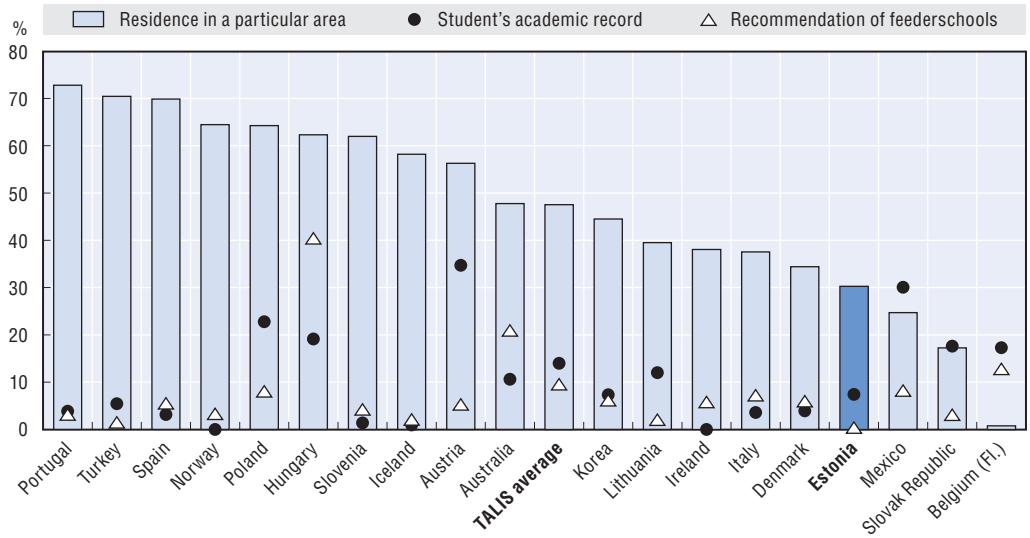
School leaders' responsibilities include: ensuring the effective running and organisation of the school; providing instructional leadership; managing the school's financial activities in co-operation with the supervisory body, the Education Council and the Students Board; signing staff employment contracts; establishing teacher salaries above and beyond the levels set by the MoER, and organising job interviews for vacant teacher posts.

Source: UNESCO, 2006-07, *World Data on Education Country Reports*, 6th Edition.

School competition and choice

As indicated in Figure 7.1, school choice is a very strong characteristic of the Estonian education system as compared to other countries. Parents may choose to send their children to an out-of-catchment-area school if there is a vacancy. Funding follows the student – a system which is intended to encourage competition among schools. Officials believe that schools with more course offerings and higher levels of student achievement will attract more students, and that this competition among schools will provide all schools with incentives to improve performance; or, alternatively, municipalities will have incentives to close or consolidate schools with poorer performance.

Figure 7.1. **Percentage of teachers in schools where the principal reported the following pre-requisites or high priorities for school admittance, 2007-08**



Countries are ranked in descending order of importance attributed by school principals to residence in a particular area.
Source: OECD (2009), *Creating Effective Teaching and Learning Environments: First Results from TALIS*, OECD, Paris.

The MoER has conducted spatial studies as to where students attend school. These studies confirm that students in more populated regions are more likely than their peers in remote rural areas to attend schools outside of their own catchment area. Students in Tallinn and Tartu, and the surrounding municipalities, are more likely to attend schools that are out of their own catchment area; although the majority of students attend schools in their own area, *i.e.*, students from surrounding municipalities may attend schools in the cities of Tallinn and Tartu. Students living in these cities may also choose to attend schools in a different catchment area, but they usually stay within the city boundaries.

Admissions criteria for general upper secondary schools, which are developed jointly by individual schools and the local government, vary. For example, students entering year 10 may be required to take admissions tests. Some schools offer boarding for students from remote areas. Stakeholders interviewed for the case study indicated that school rankings published in newspapers influence parents' and students' choices. However, there have not been any English-language analyses of the impact of this competition on school and student performance in Estonia.[5]

The national curriculum

The national government sets out basic curriculum requirements. The curriculum, which was updated in January 2010, now places a greater focus on integrating elements of the curriculum (for example, across mathematics and science) and ensuring that teaching and learning is relevant to students' daily lives. The knowledge, skills and attitudes emphasised in the new curriculum follow European-level trends in this area. The new curriculum clearly outlines competencies students must achieve by the end of basic school (year 9) and by the end of general upper secondary school (year 12). Students will also have more options from which they may choose,[6] and may earn credits for participation in recreational activities.

Another important change is that the curricula for basic and general upper secondary schools are now in separate documents. Several stakeholders interviewed by the OECD noted the importance of emphasising the distinctiveness of the two levels, particularly for gymnasia (about 225 schools in the overall school network include years 1 to 12). Representatives of the Estonian student union were enthusiastic about the new curriculum. They believe that the separation between secondary levels is important, and that the curriculum in general will be more effective in helping students to develop social, communication and entrepreneurial skills needed in the labour market. Given that the unemployment rate for 15 to 24 year olds is now 23.4% (based on data from the fourth quarter of 2010), these features are particularly relevant.

The new curriculum will be phased in over a period of three years beginning with classes in years 1, 4, 7 and 10 in 2011; adding in years 2, 5, 8 and 11 in 2012 and so on. Students at different educational stages will not face any drastic changes in curriculum requirements. Guidelines for curriculum implementation were scheduled for distribution to schools in autumn 2010. Teachers will receive training to implement the new curriculum. The training will draw on current funds for professional development, as well as European Structural Funds.

According to data from the OECD's Teaching and Learning International Survey (TALIS, 2009b), schools in Estonia have much more autonomy than the average for countries participating in the survey (see Figure 7.2). The new curriculum in Estonia maintains schools' autonomy to develop courses (Estonian Ministry of Education and Research, 2010; OECD, 2009b). For example, a gymnasium visited for this case study has developed options for students at the upper secondary level to study state security, filmmaking, and so on. Even so, the school leader noted that they will likely need to hire new teachers to cover new courses in the updated curriculum.

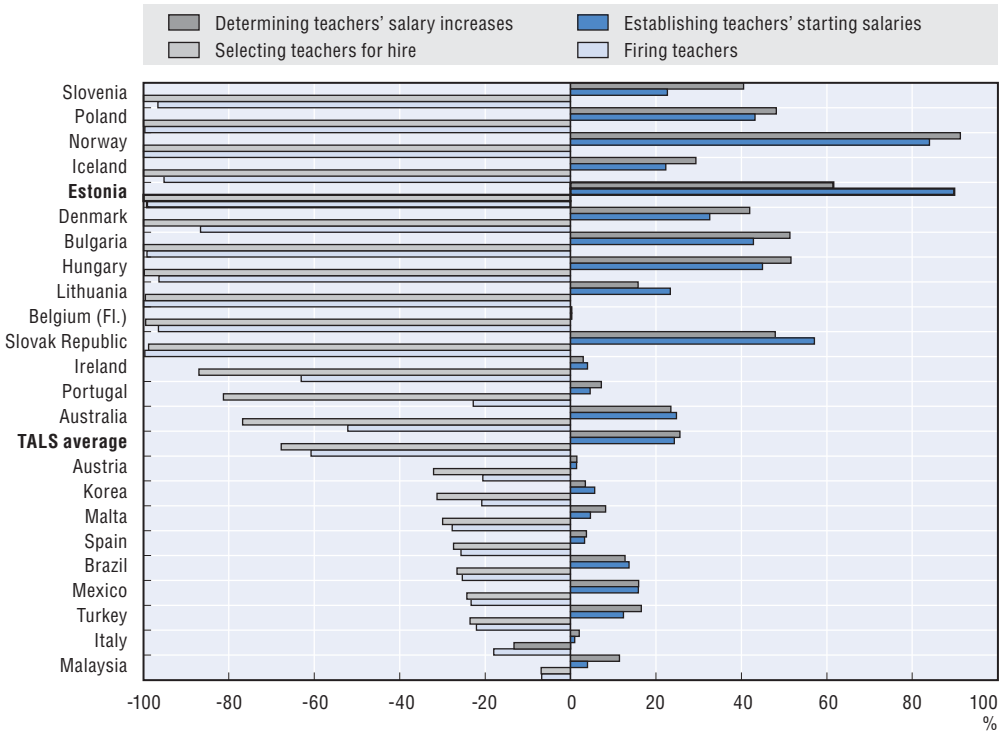
Estonian school leaders also have considerable decision-making authority for determining teachers' salaries and salary increases, allocation of professional development funds, courses offered, and school policies on student discipline and student assessment. School leaders in Estonia have considerable responsibility for hiring and firing teachers as compared to other TALIS countries. However, hiring and firing decisions are somewhat limited by the tight labour market for teachers in Estonia, and the difficulty of attracting and retaining teachers to work at schools in remote areas (OECD, 2009b).

This kind of school autonomy appears to be an important factor in student achievement. According to an OECD (2004a) analysis of the 2000 PISA data, in most countries that have performed well in the PISA programme, local authorities have substantial autonomy to adapt educational content and manage financial and human resources. The OECD analysis also found that in those countries in which school leaders reported a higher degree of curricular autonomy, reading literacy tended to be significantly higher. The OECD cautions that the relationship between autonomy and student performance cannot be interpreted in a causal sense, as other factors may be involved (OECD, 2004a). Nevertheless, these findings have important implications for decisions related to the centralisation and/or further decentralisation of different functions.

Monitoring school and student performance

The government monitors school performance through national assessments and school self-evaluations. Assessments based on a population sample of students in years 3 and 6 are used to monitor how well schools are covering curriculum requirements. Detailed

Figure 7.2. **School autonomy factors, 2007-08**



Countries are ranked in descending order of the percentage of teachers whose principal reported considerable responsibility held at the school for selecting teachers for hire.

Source: OECD (2009), *Creating Effective Teaching and Learning Environments: First Results from TALIS*, OECD, Paris.

results are provided to schools and teacher training institutions, and a summary of the test results is made public. Students in years 9 and 12 take school leaving examinations. The results of the school leaving examinations are also made public and are seen as indicators of school quality. These national assessments will need to be adjusted to reflect the new curriculum goals.

In 2006, Estonia eliminated county-level "complex" inspections. County inspectors now conduct "thematic evaluations" focused on specific areas of concern. The national government also initiated a system of School Self-Evaluation (SSE), which schools are required to conduct once every three years.

Estonia also participates in international assessment programmes, including TIMSS and PISA. While Estonia reports high equity of outcomes for the 2006 PISA across the country, municipalities did not receive individual results for their schools. Municipalities are expecting to receive a breakdown of local results for the 2009 PISA. This will allow municipal and school leaders to compare the performance of their local schools with those in other municipalities/regions within Estonia. They may also identify the relative strengths and weaknesses of their schools.

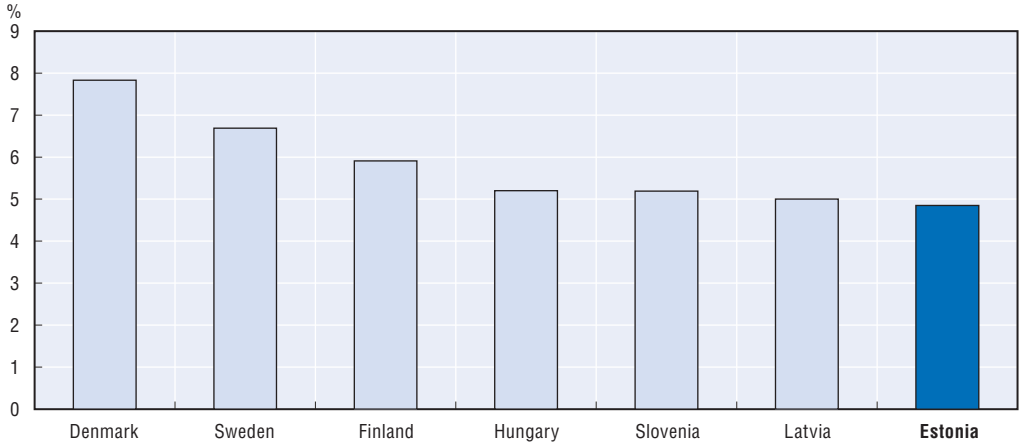
Education funding as a percentage of GDP

Education funding in Estonia has increased at a slower rate than GDP. Between 1996 and 2008, Estonian GDP grew 4.42 times, but funding for general education increased only 3.67 times (Friedrich and Reiljan, 2010). Educational expenditures decreased from 6.05% of GDP in 1996 to 4.85% of GDP in 2007. By contrast, expenditures in other small EU countries

are much higher. In 2007, Denmark allocated 7.83% of GDP to education (although it should be noted that Denmark is among those countries spending the most on education), Sweden 6.69%, Finland 5.91%, Hungary 5.20%, Slovenia 5.19% and Latvia 5% of GDP (Friedrich and Reiljan, 2010, compiled from data in the Eurostat online database) (see Figure 7.3).

Figure 7.3. **Education funding, ISCED 0-6, 2007**

% of GDP



Source: Freidrich, P. and J. Reiljan (2010), *Strategies in the Fiscal Reform of Estonian General Education*, The University of Tartu, FEBA, Tartu; compiled from Eurostat data.

Intergovernmental relationships: Promoting links between education and economic and social development

Intergovernmental relations include both vertical and horizontal relationships. Vertical relationships involve, for example, those between the MoER and local municipalities or county governments. Horizontal relationships include links between and among government units at the same level, for example, at the national level between the MoER and the Ministry of Finance (MoF), the Ministry of Interior, and the Ministry of Social Affairs, or at the sub-national level between municipal governments and between county governments. To a large extent, intergovernmental relationships in Estonian education policy have been limited to vertical relationships between individual ministries and the municipalities.

The MoER has limited tools to influence municipal policy choices. These include financial incentives, legislation, letters, and sharing information and analysis to support local-level decisions. The counties have a very weak role. Horizontally, there are few strong links across municipalities and few horizontal links across ministries at the national level.

The authors of the Estonian Human Development Report (HDR) (Estonian Co-operation Assembly, 2010) suggest that the weak formal horizontal co-operation across ministries – as well as across municipalities and counties – poses a barrier to national and regional social and economic development. They observe that there are no existing efficient mechanisms for the co-ordination of education, economic and labour market policies. The result has been increasing inequality across regions, as economic growth and productivity have been centred in the larger cities of Tallinn and Tartu and their surrounding areas.

The critical question for Estonia, as posed in the 2009 HDR (Estonian Co-operation Assembly, 2010), is whether the current model based on two urban growth centres is suitable for supporting the entire country. The HDR authors note that national policies in

Estonia focus on equalising revenue and social support across the regions. These policies do little to reduce the rate of youth migration to growth centres, where they are better opportunities for education and employment. This pattern will likely contribute to greater economic disparities in the future, and undermine efforts to achieve the government's strategy for a knowledge-based Estonia.

The broader *OECD Public Governance Review of Estonia*, of which this case study is a part, recommends a balanced, strategic approach to social and economic development, with regional policy playing a stronger role (see Chapter 6: "Delivering Public Services Effectively"). However they are defined in the future, regional institutions should take a stronger lead in developing strategies across sectors and linking these to regional development objectives, establishing structures to promote collaboration across municipalities, and ensuring that services are adapted to the needs of the local population. Education would, of course, need to be a key part of regional social and economic development strategies.

The body of this case study describes the MoER's concerns in the current governance environment. The common question across these issues is whether the central government should take a stronger role in managing educational resources or should invest in building municipalities' capacity to improve their management and service delivery ability, and providing incentives for them to do so. The latter strategy – that is, investments in building sub-national capacities – is more consistent with the recommendations of the broader *OECD Public Governance Review of Estonia*.

The final section of the report makes broad recommendations for educational governance and management in Estonia, and is intended to guide decision making at a point where a number of elements are in flux.

The suitability of the current financing system for supporting general education, and alternative approaches

In Estonia's decentralised education system, schools are financed by contributions from national and municipal budgets, as well as additional contributions from state-owned foundations (*e.g.,* foundations administering funds from the EU), donations and school income from extracurricular activities. National and municipal budgets, which comprise the major portion of school funding, are set annually.

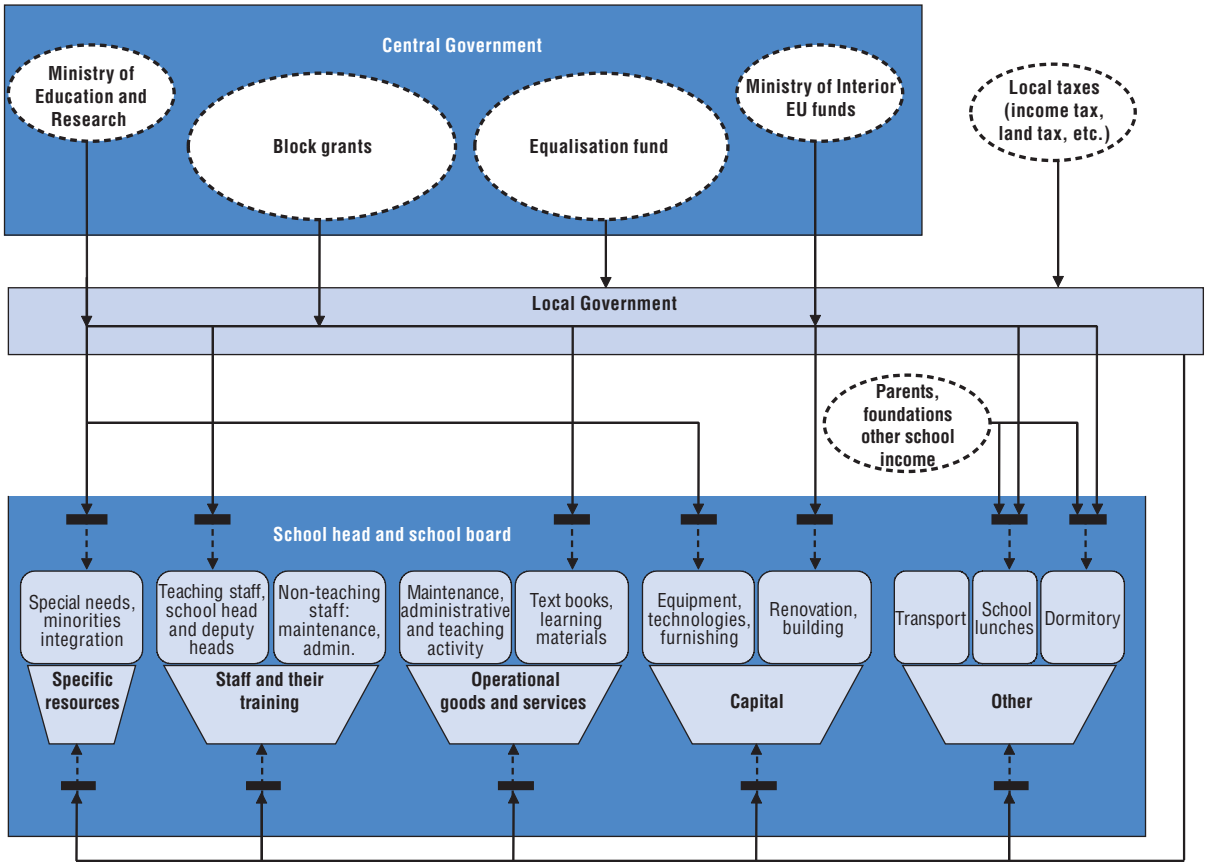
As noted, the MoER has asked whether the current approach to funding (central + municipal funding) is the most appropriate approach. The alternatives would be move to full central management of education funding (*e.g.,* as in France, Greece, Ireland, the French and Flemish-speaking communities of Belgium and for targeted school levels in Lichtenstein, Luxembourg and Austria) or a more fully decentralised system (*e.g.,* Bulgaria, Lithuania, the five Nordic countries, Poland and the United Kingdom). In these countries, funds from central government are allocated to local governments, which take full charge of allocating funding for staff, operational and capital resources for education.

The current national funding formula is described in some detail in the next pages – first to consider the merits of this approach, and second because it plays into other issues being considered in this report (*e.g.,* whether to establish nationally run general upper secondary schools in cases where local governments have requested state support and agree to this arrangement).

The current funding system

Under the current system, education funding is allocated to municipalities as part of a block grant. Figure 7.4 illustrates the funding flows for municipal schools in Estonia. Municipalities decide how to allocate funds to schools within their boundaries. In smaller municipalities, municipal administrators may negotiate budgets with individual schools. The municipalities may decide to re-organise, close or consolidate schools (the national government cannot do this). They may, and often do, supplement teacher salaries (see more detail below).

Figure 7.4. **Funding flows for municipal schools in Estonia**



Funding flows for municipal schools (state schools are funded directly by the central government). Capital resources, including equipment, are provided to schools by local government authorities.

Source: Adapted and updated from original source [Eurydice, (2001), "Diagrams Showing Financial Flows in Compulsory Education in Europe, 2001", *Eurydice*, Brussels.] by Ministry of Education and Research of the Republic of Estonia, (2011).

Thus, the block grant provides some discretion as to how funds are spent. Nevertheless, a number of requirements limit this freedom. Municipalities must provide lunch for all students in basic schools; follow the minimum number of classroom hours prescribed at the national level; ensure that maximum class size does not exceed 24 students at the basic school level (years 1-9) (there is no maximum class size for general upper secondary school); and ensure at least minimum salary ranges for teachers. Municipalities must pay for the operating costs of schools (including salaries of non-teaching staff); purchase furniture, equipment and other teaching materials; and provide support for hobby classes (Levačic, 2007). Only 3% of the national funding allocated for teachers' salaries is designated for professional development.

Municipalities, on average, contribute about 40-50% of funding for general education from their own revenues. Municipal revenues, which are largely based on individual income and land taxes, vary a great deal across municipalities (OECD, 2001a) (see Chapter 6: "Delivering Public Services Effectively"). A 2007 World Bank report analysing Estonia's (then-proposed) education funding formula notes an average local tax revenue per inhabitant of EEK 4 482 in 2005 (about EUR 286), with a maximum of EEK 18 600 (about EUR 1 189) and a minimum of EEK 1 480 (about EUR 95) (Levačic, 2007). Following the global financial and economic crisis of late 2008, however, municipal tax-based revenues have dropped, on average, by 13%; and national grants to municipalities were cut by 11%. The general education grant was cut by 6%. Thus, municipalities have been required to make significant cuts in spending, although municipal cuts to education have been less severe than in other areas (Moisio, 2010b).

The annual envelope for national education funding is co-ordinated each year by the Ministry of Finance (MoF), based on the overall budget priorities and constraints. The central government and the Parliament make final decisions regarding funding levels. However, the MoER, the MoF and the two national municipal associations do engage in negotiations regarding the national education budget. These negotiations help to expose issues that need to be taken into account in the distribution of resources.

The current education formula to allocate national funds to municipal governments was introduced in January 2008. The formula was developed over a period of four years by a special working group (about 30 stakeholders, including representatives from Estonia's two national-level municipalities associations). A draft proposal for the new formula was published and discussed in meetings held around the country (Levačic, 2007), although according to an MoF official involved in the working group, local-level stakeholders did not provide much input.

The motivation for introducing the new formula was to improve the alignment of funding with policy goals. An MoF official commented that the new formula allows them re-allocate funds to better reflect new policy priorities, such as changes in teacher salaries and workload, class size, or new curriculum requirements. The new formula also increases transparency. In the past, for example, the MoF provided funds to municipal governments to help them close funding gaps on an *ad hoc* basis. The national government drew on reserve funds to meet these funding requests. According to the MoF, the new formula appears largely to have succeeded in ending these requests.

According to the MoF, approximately 90% of national funds under this formula are distributed in the same way as in the past. While the current formula represents an important shift from the prior approach in that it has defined a minimum school size, smaller schools may still receive state-granted funds. The prior formula used a strict per capita allocation and thus provided stronger incentives for closure or consolidation of small schools. Between 1998, when the number of schools was its peak, and 2006, the number of schools declined by 139 (from a high of 724 schools in 1998 to 573 schools in 2008) (Levačic, 2007; MoER, 2008).

The 2008 formula is based upon the following factors:

1. The number of students, weighted according to level of education.
2. The number of students with special educational needs.
3. Additional funding for classes with empty spaces (*i.e.,* if the number of students is too low to cover teaching expenses; this applies to stages I to III only, *i.e.,* years 1-9).

4. Regional isolation. This funding is intended to compensate for the difficulty of hiring teachers to work less than full-time, where they do not have the opportunity to supplement hours by working in another school. Schools on small islands are considered regionally isolated, as are schools where the nearest school is a driving distance of 30 kilometres or more away. A school's status is reconsidered every year.[7] This funding ensures that small communities are able to maintain basic schools near families' homes.
5. Language of instruction (Estonian, Estonian language immersion, Russian, English and Finnish). Additional funding is available for municipalities with fewer than 1 000 students – the number of students considered as necessary to run an efficient school network – learning in one of the language groups. Because local governments are small, only four are not eligible to receive additional funding for teaching in Russian, and 10 for teaching in Estonian.
6. A supplement for management (classroom teachers and school leaders). School leaders' salaries are considered as management costs (although school leaders often teach, as well).
7. Schools under united management. For example, schools operating under the same name but functioning separately (in different buildings) can be counted as separate schools upon request of the local government. However, management costs are counted once for these schools.[8]
8. Investment, textbook and workbook, and school lunch components. These amounts are allocated mainly on a per capita basis, but number of classes is also taken into account when distributing the support for investments (Levačic, 2007; Estonia MoF, 2010).

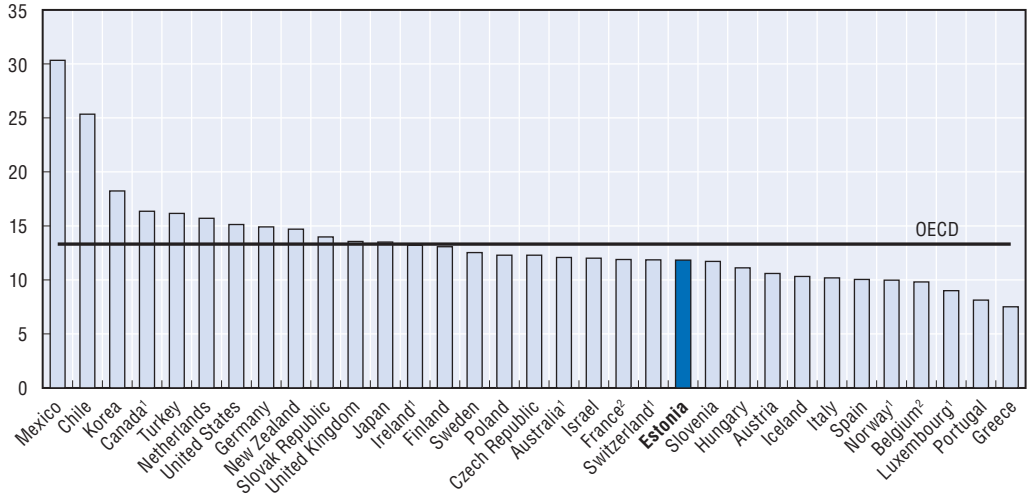
The current formula, which is a combination of per capita and base funding, is essentially an "activity led" model that considers funding needs of schools of different sizes and different grade ranges. For example, municipalities now receive funding for a minimum class size of six students in stages I and II together (*i.e.,* years 1-3 and 4-6), and a minimum of 10 students in stage III (years 7-9). The MoF has calculated that this is the number of students needed for a school to meet expenses. Because per capita funding for classes with fewer than 17 students is insufficient to cover teaching expenses in stages I to III, schools may receive additional funding to cover the empty spaces. To receive additional funding there should be a minimum of six students in a class in stages I and II together, *i.e.,* years 1-3 and 4-6, and a minimum of 10 students in stage III (years 7-9). Classes with special needs students have a minimum of five students. Extra funding is available for schools integrating students with special education needs in regular classes.

At stage IV (years 10-12), however, the minimum class size increases to 21 students (again, the number of students calculated by the MoF as necessary for the school to meet expenses), so there is a stronger incentive for consolidation of schools at this level; municipalities are expected to collaborate in order to rationalise provision at this stage. Moreover, the national curriculum includes a larger number of compulsory courses for stage IV students, so this level is more expensive to operate.

Municipalities may choose to operate schools at any of the stages with fewer students, but must support expenses not covered by the national formula from their own budgets. In larger schools, large classes are funded so that students may be split into smaller sized groups for part of the timetable. At the secondary school level, the student-teacher ratio is close to the OECD average (13 to 1). Other countries with similar ratios are: Australia (12), the Czech Republic (12), Finland (13), France (12), Ireland (13), Israel (12), Japan (14), Poland (12), the Slovak Republic (14), and Slovenia (12) Sweden (13), Switzerland (12) and the United Kingdom (14) (OECD, 2009b) (see Figure 7.5).

Figure 7.5. **Ratio of students to teaching staff in educational institutions, 2007**

By level of education, calculations based on full time equivalents



Secondary education, calculations based on full-time equivalents.

1. Public institutions only (for Australia, at tertiary-type A and advanced research programmes only; for Ireland, at secondary level only; for the Russian Federation, at primary level only).
2. Excludes independent private institutions.

Source: OECD (2009), *Education at a Glance*, OECD, Paris.

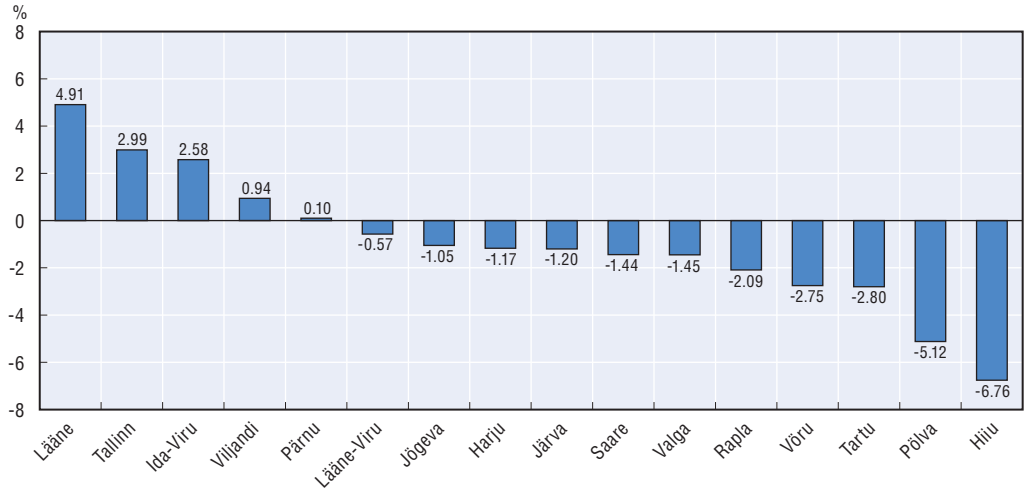
As noted, the recent curriculum also introduces several new requirements which are expected to have a financial impact. While this cost impact was considered and assessed when designing the policy, there was no comprehensive cost analysis – which would have helped provide evidence for decision making. Schools serving students at the upper secondary level will be required to offer options among three broad areas of study (these may vary according to the school's specialty). Local stakeholders interviewed commented that they will need to bring in new teachers in specialty subject areas, develop additional study options for students, plan study trips, etc.

In 2008, five counties received more funding than in the past and ten received less (with a high of +4.91% for Lääne County, and a low of –6.76% for the country island of Hiiu), as illustrated in Figure 7.6. There is an equalisation fund, which allocates additional revenue to all but the richest municipalities (equalising up to 90% of the difference between average per capita tax revenue and calculated expenses). Municipal and national governments negotiate the amount they will receive each year (Levačic, 2007). There is also a reserve fund, which may be used for expenses incurred as a result of staff dismissal, an increase in the number of special education needs (SEN) students, a change in class structure, and increased educational costs.

Municipalities own school buildings and are responsible for renovation and maintenance. While EU funds have been important for supporting a number of projects to renovate school buildings, there are still many schools with outdated facilities and poor learning conditions (Friedrich and Reiljan, 2010). Municipalities face challenges in qualifying for loans for additional infrastructure investments. They may also find it difficult to pay for regular maintenance.

Figure 7.6. **The impact of the new funding model on current educational expenses in the counties of Estonia, compared to the old funding model, 2008**

Figures in percentage



Source: Compiled by Freidrich, P. and J. Reiljan (2010), *Strategies in the Fiscal Reform of Estonian General Education,* The University of Tartu, FEBA, Tartu; compiled from data from Estonia Ministry of Finance 2008.

Teacher salaries

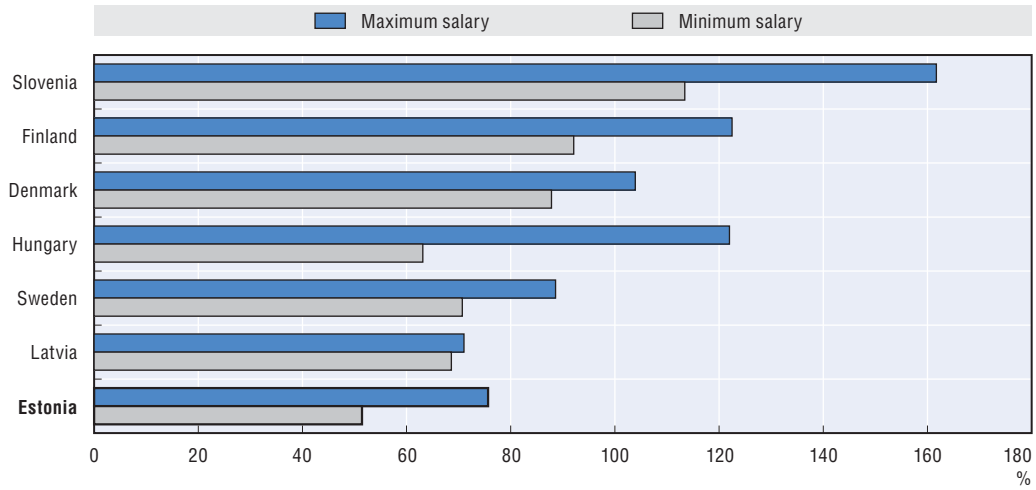
Teacher salaries are a major part of school expenditures. According to the OECD, between 1996 and 2008, teachers' salaries increased in real terms in almost all countries participating in the annual Education at a Glance survey. Estonia was in the group of countries with the largest increases. Even with these increases, Estonia remains in the group of countries paying the lowest rate per teaching hour (at the lower secondary school level) (see Figures 7.7, 7.8 and 7.9) (OECD, 2010a). On a positive note, however, the Estonian Education Personnel Union (EEPU) notes that public school teachers are the only public sector employees in Estonia (at either the national or municipal levels) whose salaries were not cut following the global financial and economic crisis of 2008.

In Estonia, the basic pay levels for teachers at each of the four levels of seniority (junior teacher, teacher, senior teacher, and teacher-methodologist) are determined through negotiations between the national government ministries (including the MoER) and the EEPU (see Box 7.1). The salary structure for teachers is relatively flat. Teachers at the top of this scale earn up to 30% more than teachers at the bottom. This is also true in Denmark (with the exception of upper secondary level), Norway, Slovenia and Turkey. In Estonia, increases in teacher salaries are not necessarily fully matched with increases in allocations to municipal governments, so municipal governments must either cover the additional amount of the salary adjustment or decrease staffing levels. According to municipal stakeholders interviewed, while the national contribution to teachers' salaries has been frozen, the municipalities continue to pay a supplement to the salary level covered by the state grant. This is currently one of the biggest pressures on municipal budgets.

As noted, local governments may choose to supplement the state-financed salary, and many do. In more highly populated regions of the country, for example, municipalities are under pressure to offer salaries and working conditions competitive with neighbouring areas (Monk, 2007). At the same time, remote municipalities are under some pressure to offer additional pay in order to attract qualified teachers who might otherwise not want to

Figure 7.7. **Minimum and maximum basic gross teacher salaries relative to per capita GDP, 2006-07**

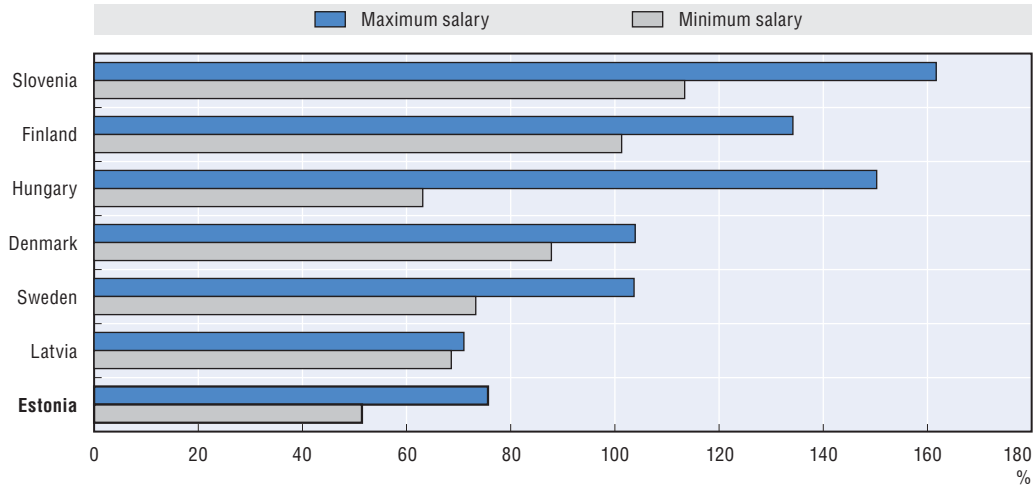
ISCED 1



Source: Eurostat and Eurydice (2009), "Key Data on Education in Europe 2009", Education, Audiovisual and Culture Executive Agency, Brussels, compiled by author.

Figure 7.8. **Minimum and maximum basic gross teacher salaries relative to per capita GDP, 2006-07**

ISCED 2



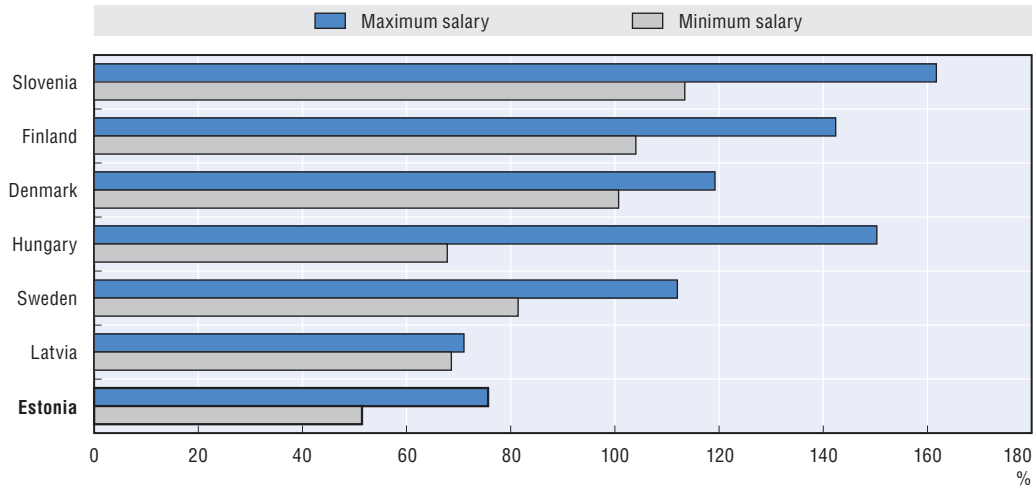
Source: Eurostat and Eurydice (2009), "Key Data on Education in Europe 2009", Education, Audiovisual and Culture Executive Agency, Brussels, compiled by author.

live in rural areas (although, as the case study will show, higher salary alone is not likely a sufficient incentive). Individual schools also have the possibility of offering different rates of pay, for example, to award teachers for individual performance. Local pay levels are agreed upon with the local teacher union representatives. However, municipalities in less-developed regions usually have a lower revenue base, and therefore fewer options for hiring (Friedrich and Reiljan, 2010).

Two-thirds of Estonian teachers and school leaders who responded to OECD's TALIS (2009b) survey said that their school's capacity to provide instruction was blocked "to some

Figure 7.9. **Minimum and maximum gross teacher salaries relative to per capita GDP, 2006-07**

ISCED 3



Source: Eurostat and Eurydice (2009), "Key Data on Education in Europe 2009", Education, Audiovisual and Culture Executive Agency, Brussels, compiled by author.

extent" or "a lot" by a shortage of qualified teachers. As in many OECD countries, the teacher workforce in Estonia is aging. The average age in the profession is now 49. Given this high average age, there are many teachers at the higher end of the pay scale.

At the same time, there are concerns about the need to attract a new generation of teachers. Teaching is not currently a popular choice for young university graduates. While the MoER offers financial incentives for new teachers to work in schools outside the cities of Tallinn and Tartu, few teachers take advantage of this. (According to the MoER the incentive is EEK 200 000, approximately EUR 12 800 at current exchange rates; the incentive does not need to be paid back if the teacher stays for five years or more).

Observations and recommendation on the current funding system

Funding approaches are usually evaluated against the criteria of efficiency, effectiveness, equity and transparency. The current funding formula brings a number of strengths, as well as some shortcomings, in these areas. Alternative approaches and their implications for school funding and management in the Estonian context follow observations on the current funding model.

Efficiency

The choice to support small schools through the current formula lowers efficiency, but reflects a clear political choice to protect small community schools serving students at ISCED level 1. Nevertheless, the pace of school closure has slowed only somewhat compared to the three years immediately prior to implementation of the new formula in the 2008-09 school year. Since 2008-09, a total of 21 schools (all levels) have been closed across the country, as compared to closure of 24 schools between the 2005-06 and 2007-08, and 39 schools between 2002-03 and 2004-05. Even at this pace, many of the national and local policy staff interviewed expressed concern that there are still too many small schools within the system.

There are also many missed opportunities for realising efficiencies through shared services across schools and municipalities. MoER staff members acknowledge that they currently have limited policy levers to influence these local choices, which may ultimately be more effectively addressed through new structures to promote horizontal co-operation, as discussed in a separate section below.

A reported positive result of the current formula is that the MoF has received very few requests for additional funding to cover municipal debt. These requests had been relatively frequent before the new formula was implemented. Municipalities appear to have received the signal that deficits will not automatically be covered by the central government, and that they will need to take greater responsibility for keeping their budgets balanced.

Equity

The 2007 World Bank report evaluated both the vertical and horizontal equity of the (then-proposed) formula. Vertical equity refers to efforts to "level the playing field", so that more funding is allocated to students with greater needs. This includes individual students (*e.g.,* special education students) as well as municipalities (*e.g.,* those with lower tax revenues). Horizontal equity refers to the distribution of expenditure for students deemed to have equivalent needs (*e.g.,* students without special needs). Differences in expenditure that are based on the structural costs of providing an equivalent education (*e.g.,* the higher cost of running smaller schools) are consistent with horizontal equity (Levačic, 2007).

The current formula appears to strengthen the vertical equity of the system. The formula introduces a new weight for students identified as having special educational needs, and provides additional funds for these students. However, the formula does not meet criteria for horizontal equity – that is, local governments are not able to provide an equivalent national standard of education for all students. Although the equalisation fund (which is separate from the actual funding formula) equalises up to 90% of the difference between the average tax revenue and calculated expenditure need, inequities remain. As would be expected given the higher relative cost of running small schools, rural municipalities have higher per student costs, but must allocate municipal funds from a smaller revenue base (Levačic, 2007).

One way to address horizontal inequities would be for the national government to establish more clearly the amount each local government needs to spend in order to achieve a common equivalent national standard. However, this approach would need to be based on good data relating to the structural costs of providing a defined standard of education in different localities (*e.g.,* urban *vs.* rural, remote, etc.). Municipalities would need to track both inputs and outcomes (through improved assessment and evaluation systems). The system currently has only a limited set of tools in place for monitoring performance.

The current formula is also inequitable in that it allows municipalities to support a number of small schools in close proximity to each other, if they choose to do so. These municipalities receive more money from the national government, although they are supporting the same number of students as other municipalities with fewer schools. To address this type of problem, some analysts have argued that education funding formulas should consider population density rather than school size (Gershberg, 2008; Freidrich and Reiljan, 2010). A density adjustment takes into account diseconomies of scale resulting from serving a small number of students in a large geographical area. Schools in rural areas of Canada, the UK, and the US use density (also sometimes referred to as scarcity)

adjustments. However, the distribution of population, conditions for transport, etc., vary a great deal in each of these countries. A density adjustment for the Estonian context would need to be based on good data on the inputs needed for students in different geographical areas to meet national standards.

A separate problem related to equity is that remote municipalities also have considerable difficulty in attracting high-quality teachers. In addition, teachers working in remote rural areas may need specific competencies, such as the ability to teach more than one subject or grade level, to address the needs of students with wide range of learning needs within the same classroom, to be prepared to supervise extracurricular activities, and to adjust to the community (Lemke, 1994; Stone, 1990). Policy makers should consider implementing a survey of Estonian teachers to learn more about how schools in small or remote communities might be made more attractive, and to develop more effective incentives. They should also consider implementing pilots of new incentive programmes. For example, a study on teachers in remote areas of British Columbia, Canada, found that teachers chose to stay in such areas because of the school leader, employment of their spouse in the community, and satisfaction with the rural lifestyle (Murphy and Angelski, 1996/97). This research is vital for better understanding teachers' motivations. Research on why individuals choose to migrate or to remain in small, remote communities may also extend beyond teaching to other professions.

Effectiveness

Across OECD countries, the goal of education funding is to support both access to opportunities and student achievement. Based on the strong performance of Estonian students in the PISA and TIMSS programmes, Estonia is delivering a high-quality education at a low level of expenditure. However, beyond these macro-level data, there is little information on the effectiveness of school-level investments. Ideally, it would also be possible to track detailed information on school expenditures and student outcomes. These data would also support decisions as to how to weight funding allocations for different kinds of students, for example, taking into account socio-demographic background.

These kind of detailed data do not seem to be currently available in Estonia, and indeed are rarely available for most countries' education systems. As a 2001 OECD report on the Estonian fiscal system notes, only a few countries have attempted to use performance- or results-based budgeting to better assess the efficiency and effectiveness of public expenditures. The report notes that these systems are still not well developed: implementation may take several years; administration is complicated; data are usually tracked at a central rather than local level; and it is still difficult to define what levels of spending yield desired outcomes. However, Estonia's MoF is piloting a performance-based budgeting initiative at the national level within the Ministries of Finance, Justice, and Interior (see Chapter 5: "Building a Common Agenda"). If the pilot is successful and the initiative is approved by government, it may serve as a model for other funding areas, including education.

Transparency and accountability

The relative simplicity of the current formula supports transparency. School Boards in each municipality are kept abreast of budget developments, and data are publicly available throughout Estonia. The National Audit Office also monitors municipal financial management. However, as Levačic (2007) notes, the quality of financial control in

municipalities also depends on local probity and competences in this area. This issue thus plays into broader questions regarding uneven management capacity of municipal governments, and alternatives to formula funding (as discussed later in this case study).

Alternatives to the current approach to formula funding

The MoER is interested in learning more about the advantages and disadvantages of concentrating fiscal management at either the national or municipal level, and whether either of these approaches would foster further efficiency and effectiveness while meeting criteria for equity and transparency.

According to Eurydice's (2001) review, Financial Flows in Education in Europe, the majority of European countries mix national- and local-level funding sources (Estonia's current approach). However, in a few countries, a single public authority is responsible for education funding. The central government funds education in the French Community of Belgium, the Flemish Community of Belgium, Greece, Ireland, and Slovak Republic: lower secondary education in Liechtenstein and Luxembourg; and higher general secondary schools in Austria. Decentralisation is quite extensive in Bulgaria, Lithuania, the five Nordic countries, Poland and the United Kingdom. In these countries, funds from the central government are allocated to local governments, which take full charge of funding staff, operational and capital resources. Local governments in these countries contribute revenues from their own tax bases as well, but follow different approaches to allocating funds based on the national funding scheme.

Figures 7.10 and 7.11 show financial flows for education in Greece (more fully centralised) and Denmark (more fully decentralised), respectively. These charts should be considered only as illustrative of alternative approaches to allocation of funding. Other countries following the respective models have adapted them to meet their own needs.

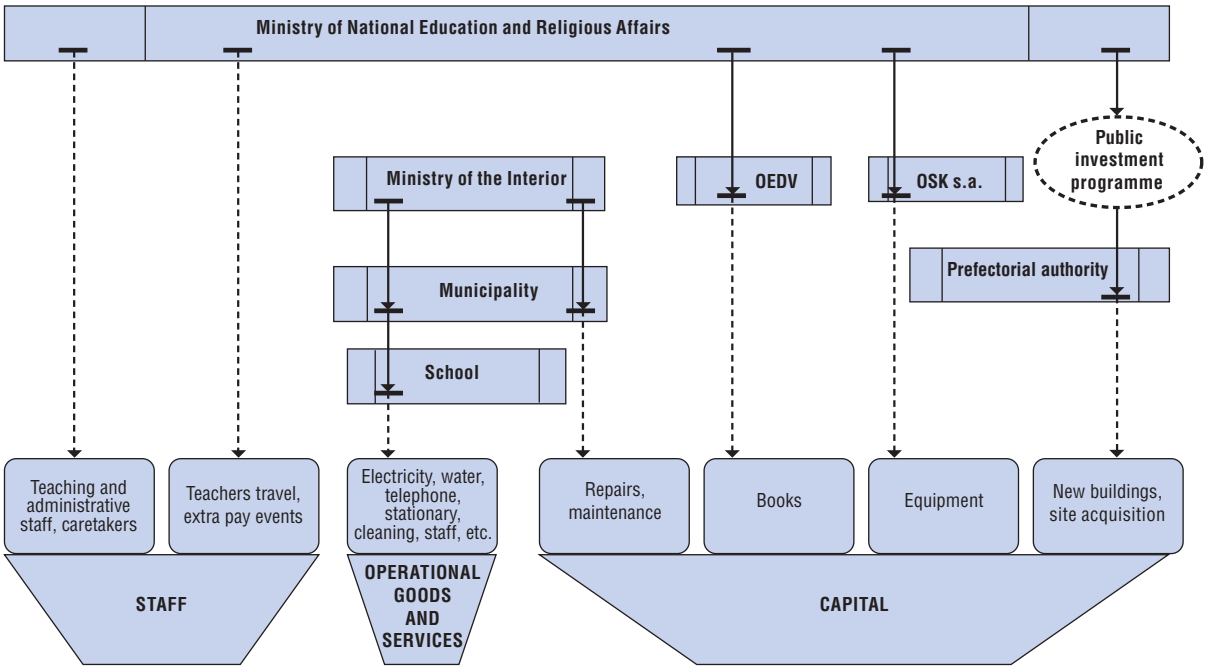
Observations and recommendation on alternatives to the current funding system

A more fully centralised funding system would provide the Estonian national government with greater control over a number of aspects of the system. For example, the MoER would gain more control over decisions related to school consolidation and school closure, although these decisions would inevitably require community engagement. Centralised decision making would also more likely lead to greater efficiencies through central purchasing and capital investments. The MoER may also be able to offer more attractive financial incentives for more experienced teachers to work in remote rural areas (although, as noted, it will be important to gather more information from teachers as to the other factors that influence their decision to stay in rural communities).

A centralised funding system, however, would likely undermine efforts to strengthen links between education and regional social and economic development. At the regional level, there would be much less freedom to shape or adapt education and training programmes to meet development needs identified by local stakeholders, or to incubate new and innovative regional programmes. A centralised funding model may also have a dampening effect on school-level innovation or incentives to allocate resources efficiently within schools (particularly if funds are earmarked for specific programmes and projects). Inevitably, even within a highly centralised system there will be some inefficiencies, as some decisions with financial implications must be made at the school level – such as hiring teachers at different pay grades.

Figure 7.10. **Financial flows in education**

Greece

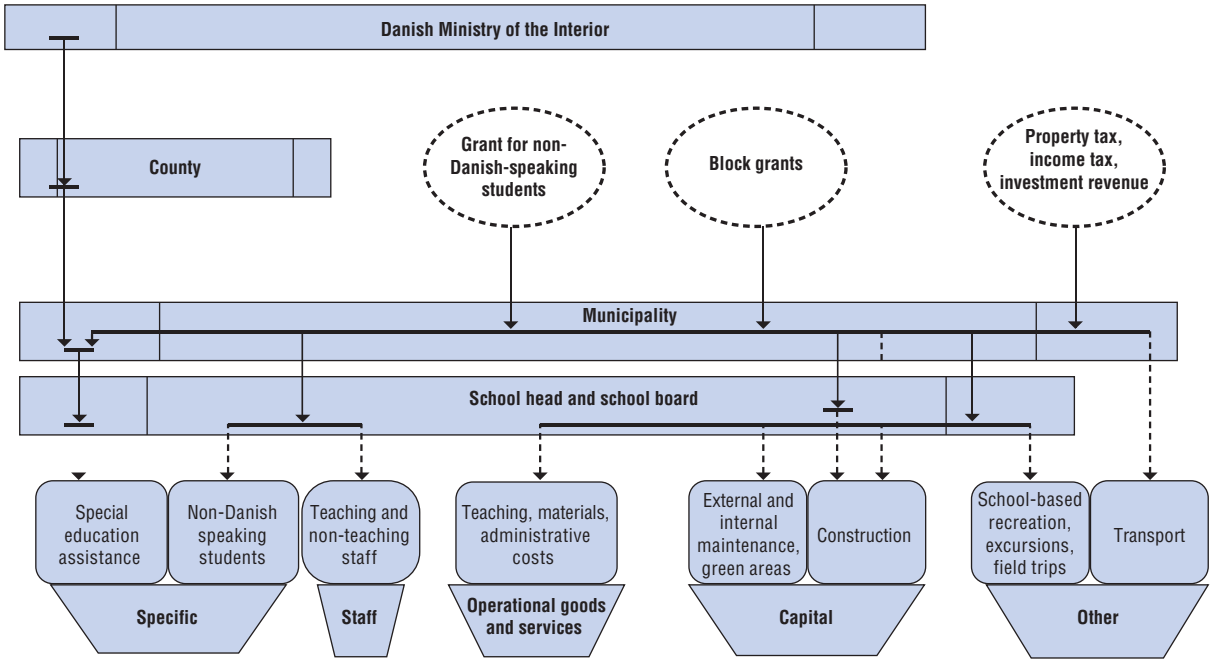


OEDV = Organismos Ekdoseos Didaktikon Vivlion (Organisation for the Publishing of School Books); OSK s.a. = Organismos Skolikon Ktirion société anonyme (Organisation for the Building of Schools, Ltd.); Schools are not allowed to raise money from non-public sources.

Source: Eurydice (2009).

Figure 7.11. **Financial flows in education**

Denmark



"The extent to which budgets are delegated to schools varies from one municipality to the next. The diagram illustrates a situation in which there has been the fullest possible delegation. There is no legislation dealing explicitly with school funding from non-public sources. With the permission of the local authorities, schools may seek non-public funds from sponsoring and donations but this is not common practice."

Source: Eurydice (2009).

Currently, some OECD countries with highly centralised management of educational funding (*e.g.,* France and Greece) also centralise decisions related to personnel, teaching schedules, textbooks used, etc. There is much less emphasis on school autonomy, which is highly valued in Estonia. An OECD (2004a) analysis found that school autonomy is correlated with higher levels of student achievement, as measured by PISA. The relationship between mean performance and the degree of school autonomy in budget allocation is also important, although less pronounced. Essentially, a loss of financial autonomy also leads to a loss of management autonomy. Thus, a centralised system is a less-than-optimal solution for the Estonian context, and should only be considered if alternatives such as increased horizontal co-operation (discussed below) and/or municipal mergers (*i.e.,* building scale) do not succeed in increasing the system's efficiency and effectiveness.

The second alternative is to concentrate fiscal management at the local level, with grant allocations based on population density within municipalities, rather than according to the existing number of schools. This would remove incentives to maintain small schools within close proximity of each other. Moreover, with even greater control over finances, local managers and school leaders may have incentives to seek additional efficiencies, including through collaboration with other municipalities and across schools within their municipality. Local leaders in decentralised funding systems have more freedom to allocate resources where they have identified specific needs, and to initiate innovative projects. They are held accountable for the use of funds, but are empowered to make decisions. Block grants may also help to avoid the "silo"-style services that may be associated with earmarked grants, allowing schools to develop integrated and coherent programmes for students.

There are, of course, some potential negative impacts associated with more fully decentralised block grants, as well. Like the current approach to formula funding in Estonia, much will depend upon the capacity of local fiscal managers to monitor spending, identify areas of need and allocate funding accordingly, seek efficiencies, encourage collaboration, etc. Absent any effort to build local capacity and address barriers to municipal co-operation, a move towards greater local autonomy in spending is unlikely to fix existing problems. National policy makers will also need to strengthen accountability features to ensure that funds are being used appropriately and are supporting desired outcomes.

The third alternative is to maintain the current funding structure, at least over the near term. This option has the advantage of preserving stability within the system. Certainly, the formula might be re-adjusted to address concerns regarding continued inequities across regions (as noted, taking into account issues such as population density, inequities resulting from the current municipal tax structure, the need for more effective incentives for experienced teachers to work in remote areas, etc.). However, the current formula is still very new, and it is difficult to judge its long-term impact and whether and how municipalities will adjust to continued fiscal pressures.

While the second and third alternatives limit the range of financial incentives the national government can use to influence local decision making, efforts might be better focused on promoting greater collaboration across municipalities, and building capacity for more effective and efficient fiscal management. This approach is also consistent with options to expand inter-municipal co-operation in regard to management of education through the establishment of "cluster districts".

Recommendation: The current best option is to retain the existing formula, with some adjustments to improve horizontal equity. Adjustments should take into account municipal population density, inequities in municipal tax revenues, and incentives to attract high-quality teachers to rural and remote regions. In the future, as sub-national governments build capacity, Estonia may consider a more fully decentralised approach to education funding.

No matter which option is chosen, it will be vital to improve mechanisms for monitoring the quality and equity of educational outcomes. Better information is essential for identifying municipalities and schools where student achievement is below national standards. National and sub-national policy makers will only be able to make strategic decisions as to where resources are most needed when they have data (see Chapter 5: "Building a Common Agenda").

The capacity of local governments to provide high quality education

In Estonia's decentralised system, the national government provides the broad direction for educational provision. Its responsibilities include development of standards and curricula, monitoring of school and student performance, allocation of national funds for education, and so on. Municipal responsibilities are determined in the Law on Local Government Arrangement and in other legislation (*e.g.,* the BSUSS Act). Based on current legislation, municipal responsibilities for education include recruitment of qualified teachers, support services for students (*e.g.,* school psychologists, career counsellors, transportation), and support for hobby groups and music education, etc.

At the school level, school leaders, who are appointed by local government, have responsibility for administrative and financial management as well as instructional leadership. School leaders hire teaching and administrative staff, negotiate salary supplements, and are responsible for staff performance appraisal and for the required school self-evaluations (SSEs). Municipalities do not intervene in school management issues, but potentially play a strong role in ensuring the efficiency of local educational provision. Local school boards are also concerned with ensuring the school quality and relevance to local needs. (The roles and responsibilities for educational provision are outlined in more detail in Box 7.1.)

Yet, there is some debate as to whether municipalities – particularly smaller municipalities – have the capacity to carry out these various tasks. All municipalities, regardless of size, must deliver the same services. The size of municipal governments and distance from urban centres will clearly impact their capacity to deliver educational services; for example, their capacity to hire more experienced teachers.

The number of municipal staff working on education in rural areas is usually very small. These staff members may also have responsibility for social services and cultural programmes. Small and remote municipalities also have more difficulty in recruiting and retaining qualified teachers, and may not be able to offer specialised courses (*e.g.,* upper secondary school sciences) or sponsor a broad range of extra-curricular activities. Municipal-level officials interviewed noted that schools in remote areas, particularly at the upper secondary level, might have difficulty meeting some of the new curriculum requirements.

Given the limited possibilities for direct intervention by the national government, it will be important to build capacity for the sub-national level to take on more responsibility. In addition to such policy levers as incentives and regulations, the national-level ministry

should also consider using some of the "softer" tools of governance, such as providing guidelines and sharing models of effective management approaches (Halász, 2004), developing structures for stronger horizontal co-operation, and strengthening attention to monitoring for accountability and improvement.

Horizontal co-operation across schools and municipalities

While horizontal co-operation across schools and municipalities has always been possible on a voluntary basis, the municipal- and county-level officials interviewed noted that, with the exception of some cultural events and shared workshops for teacher professional development, this kind of co-operation rarely occurs. Barriers to wider co-operation across municipalities are sometimes idiosyncratic. In interviews it was indicated that municipalities sometimes have poor relationships with a neighbouring municipality, but good relationships with those with whom they do not share a border. The lack of co-operation may also be due to a lack of experience or models for effective co-operation, fear of job loss within the local community, or fear of a loss of local identity. Competition between schools for students (and the funds that follow them) may also contribute to reluctance of both municipal and school leaders to co-operate.

There appear to be many missed opportunities for greater efficiencies at the regional level, as well as for strengthening effectiveness. Municipalities rarely share administrative services *(e.g.,* joint purchasing), teaching resources *(e.g.,* special courses or distance education), or networks to support teacher professional development. While the county municipal unions might facilitate inter-municipal co-operation for some of these services, as non-profit organisations, their powers are limited; they also generally have relatively small staffs.

Observations and recommendation on horizontal co-operation across schools and municipalities

The *OECD Public Governance Review of Estonia* recommends stronger regional-level co-operation to address current governance challenges (see Chapter 6: "Delivering Public Services Effectively"). In the education sector, the national, county and municipal governments should consider co-operating to create regional "cluster districts" (also sometimes referred to as "collaboratives" or "federations") as a way to encourage more effective and efficient management of education. Typically, cluster districts share services such as school maintenance, transportation, equipment, joint purchasing, etc. They may also negotiate with the national government on behalf of individual municipalities on issues such as capital investments in school facilities.

Cluster districts may also facilitate regional discussion and decision making related to the content and quality of educational offerings. For example, they may help to ensure that general upper secondary schools throughout the district offer a well-rounded range of options for upper-secondary and VET students. They may also foster sharing of teaching resources, such as special courses and teaching materials or distance learning. They may engage in discussions about how to tie education to regional needs for economic and social development. In addition, they may disseminate effective practices and/or organise regional professional development opportunities aligned with the needs of regional schools.

Cluster districts encourage co-operation across communities and schools while maintaining local autonomy. Given the existing barriers to co-operation, the national government should consider providing incentives, facilitating formal agreements between municipalities, and building capacity for co-operative work. Of course, any national efforts

to develop frameworks for sub-national co-operation will need to be developed in partnership with municipalities, counties, the existing county municipal unions and national municipal associations. It should also be noted that the development of collaborative organisations need not be mutually exclusive of decisions to amalgamate municipalities, if Estonia decides to pursue this option. New, larger municipalities would also benefit from participation in regional cluster districts.

There are several models of networks and associations that aim to improve both the efficiency and effectiveness of local governments. Two examples focused on a range of service issues in rural areas are the National Rural Network (NRN) in Italy, and the Rural Policy Programme in Finland. The NRN brings together a range of rural stakeholders in Italy, aiming to develop and strengthen local performance measures for local service delivery (*i.e.*, education as well as other services), identify and disseminate effective practice, and provide training and technical assistance. The Finnish Rural Policy Programme includes a 29-member committee representing nine ministries and 18 organisations. The Committee assists the national government in design and implementation of rural policy, incorporating specific decisions of different governmental organisations. It also issues periodical reports setting out strategic priorities for rural areas, as developed in consultation with rural regions (OECD, 2010i).

There are also networks, or cluster districts, focused specifically on education services. In the US, the majority of states have Educational Service Agencies (ESAs) which assist local schools and districts with cost-saving strategies, teacher recruitment, professional development, school improvement, and so on. The national Association of Educational Service Agencies represents 553 local ESAs in 45 states, bringing together school districts in both urban and rural areas (Association of Educational Service Agencies, 2010). The boundaries for these associations are based on locally determined criteria.

Sederberg (1988) describes a simulation model for establishing "federated school districts" (an alternative term for a cluster district) for rural schools in the American state of Minnesota. The model includes a governing assembly with an executive committee from the existing school boards in the federation, as well as an administrative team representing multiple districts. It also sets a framework for co-operation in planning and implementation of instruction, student support, school facilities maintenance, transportation, administration and other services. The simulation is to be used in the very early stages of planning frameworks for cluster districts.

The National College for Leadership of Schools and Children's Services in the UK provides guidelines and tools on its Internet site. The site sets out a model for co-operation among schools and provides tools to facilitate establishment and management of clusters. For example, the site addresses key issues such as the most effective forms of collaborative leadership, and shares case studies from the project (National College for Leadership of Schools and Children's Services, 2010).

If Estonia chooses to promote the establishment of cluster districts, national and sub-national stakeholders will need to negotiate: the process for establishing districts and the appropriate scale for districts, boundaries and functions. An initial set of criteria for these decisions includes:

- Geographic coherence:
  - borders of municipalities in each cluster district are contiguous, in order to avoid the "Swiss cheese" effect;

  - districts are able to address unique needs of rural/urban communities.
- Economies of scale:
  - districts are large enough to realise economies of scale, but small enough to ensure a focus on local needs.
- Policy coherence:
  - functions are consistent across cluster districts;
  - organisations guide regional economic and community development at the sub-national level, taking into account geographic and functional overlap.

Any legislation outlining the role and functions of cluster districts will also need to address a number of important issues, including:

- Representativeness of the new districts:
  - all member municipalities are represented in the governance structure;
  - schools and parents have the opportunity to provide input.
- Authority:
  - decision-making authority for different levels of government is clarified;
  - functions of cluster districts are aligned with authority and capacity to carry them out.
- Standards and accountability:
  - standards for high-quality service delivery are set at the national level, and districts are held accountable for meeting those standards;
  - inspectorates monitoring district performance are independent;
  - multiple measures are used to track performance to ensure that a full range of performance goals are met;
  - high-performing districts are recognised.

The national government will also need to make decisions as to whether municipalities will be required to join cluster districts or some other form of horizontal network, and whether they will offer municipalities financial incentives for joining (see Chapter 6: "Delivering Public Services Effectively", for a discussion on different approaches to creating new sub-national organisations).

On a separate note, it will also be important for any new structure to take advantage of existing capacities of individual staff members. The OECD met with municipal and county staff members who are experienced educators and administrators, and with creative and entrepreneurial school leaders. Certainly, the individuals interviewed for this case study are by no means a representative sample of the education sector workforce as a whole in Estonia. Nevertheless, it was apparent that while capacity may be low in many parts of the system, there are also a number of individuals whose skills are currently under-utilised.

Recommendation: The current best option to increase the efficiency and effectiveness of municipalities is to enable regional horizontal co-operation through the development of cluster districts or some similar regional structure. Boundaries for new districts should be based on clearly established criteria. New framework legislation and guidelines should outline the rights and responsibilities of national and sub-national actors, and service standards to which the newly established districts will be held accountable. The national government should invest in capacity building to support different stakeholders as they adjust to new ways of doing business.

Performance monitoring to ensure quality and equity of student outcomes, effective resource allocation

A majority of OECD education systems have developed broad frameworks for student assessment and school evaluation. The information gathered is vital for tracking both the equity and quality of student outcomes in decentralised systems. It is also important for identifying strengths, developing appropriate strategies to meet challenges, and supporting more effective allocation of limited resources. As public institutions, schools are also accountable to taxpayers, parents and policy makers, who want to know whether schools are meeting standards. School accountability also serves as a stimulus for improvement.

In Estonia, the MoER gathers information on school and student performance through national tests of student attainment in years 3, 6, 9 and 12, and school self-evaluation (SSE) reports. The MoER also tracks data on teacher qualifications, teacher workload, participation in professional development, support services for students, student migration, student drop-out rates, and so on.

National assessments

National assessments for students in Estonia in years 3 and 6 are intended to provide a snapshot of student performance, and track whether important areas of the national curriculum are being covered in schools. The tests are administered to a sample of students (rather than to all students at these year levels). Some of the subjects covered change each year. The tests typically last approximately 45 minutes. The results for years 3 and 6 are not published, as they are intended only for internal use by schools and the MoER to diagnose needs and develop appropriate strategies. The MoER also shares results with university-based teacher training programmes so that they may take these data into account when they develop their own curricula.

Students in years 9 and 12 take more extensive "exit examinations" (*i.e.,* at the end of basic school and at the end of general upper secondary school), signalling their passage from these programmes. The results of the year 12 graduation examinations are published in national and local newspapers. Parents and students may refer to the results in making decisions as to where they might want to spend their upper secondary years. School leaders also pay attention to these data, and how well they are doing in these unofficial rankings.

School-level evaluations

Each county has an inspectorate, but since 2006, counties no longer conduct in-depth school evaluations. Their role is now limited to thematic evaluations conducted on a sample of 10% of schools, with the themes decided each year by the MoER. County-level inspection staff has also been cut back. For example, Tartu County now has only one full-time inspector.

County education staff interviewed regretted the narrowing of inspection duties. They said that in the past they had a relatively good idea of how well schools in their region were performing, but they are now losing this level of detailed knowledge and familiarity with schools. "Complex supervision", which they had conducted previously, involved fairly lengthy school visits (about two weeks), interviews, document reviews and observation of lessons. At the same time, these county leaders recognised that there were also problems with the former inspection process, and that the MoER had found that it did not motivate improvements in schools.

In 2006, the MoER introduced a school self-evaluation (SSE) system to take the place of the more intensive external school inspection. Schools are now required to create three-year development plans. School self-evaluations, which schools must also conduct once every three years, are based on the targets set out in the plans. The MoER uses SSE reports to identify and share best practices with other schools, but does not attempt to otherwise influence school practices. School leaders interviewed found the SSE process to be worthwhile.

Observations and recommendation on performance monitoring

Multiple measures of school and student performance help to ensure validity and reliability of the data gathered. In Estonia, assessment data provide some insight on school and student performance. However, the current system is too limited to provide the full range of information needed for external accountability, school improvement, and more effective allocation of resources. For example, assessments for younger students can only cover a limited portion of the curriculum – particularly as these tests only last 45 minutes. Exit examinations for basic and upper secondary school provide some insight as to how well students at these levels are performing, but no single test can provide enough information to fully understand their achievement levels.

The SSE are very useful tools, but school leaders and teachers need time to build capacity to implement them, and to develop strategies to address weaknesses they have identified. Moreover, as regional inspectorates' roles have been sharply curtailed, there are now few ways to identify poorly performing schools and inequities within the system. The MoER should consider ways to re-introduce an effective system of external inspection and/or more intensive targeted evaluations of school programmes as a complement to SSE. External evaluation is essential for credibility and objectivity. External evaluators may also bring new perspectives on effective school management and teaching practice, based on their exposure to a wide range of schools. (Grubb, 2000; Nevo, 2001).

It may not be necessary to schedule external inspections of all schools at regular intervals, however. Inspectors or other education officials may identify those schools that appear to be most in need of intervention, and target monitoring and support resources appropriately. In the Netherlands, for example, schools that have been identified as poor quality are inspected sooner and more often than better-performing schools. This approach is referred to as "selective supervision" in the Netherlands (Inspectie van het Onderwijs, 2006).

An additional observation relates to the appraisal of school leaders and teachers. While school leaders appraise teachers and decide upon salary increases, the OECD was not able to assess whether or how well these appraisals align with overall evaluation of school performance and areas where school leaders or teachers may need to strengthen skills. This lack of alignment is a weakness in all OECD countries – and an area where Estonia might pioneer new, effective approaches.

Recommendation: In keeping with broader recommendations for clear accountability in public service, Estonia should strengthen its framework for monitoring school and student performance. This may include more national assessments that cover more aspects of the curriculum (particularly for evaluation of primary school students); re-building an effective external inspections of schools; ensuring that school self-evaluations complement external inspections; and strengthening school leader and teacher appraisals.

Nationally run general upper secondary schools

A question now under consideration in Estonia is whether the national government should run general upper secondary schools, or at least some portion of them. Local governments agreeing to this arrangement negotiate roles and responsibilities regarding school operations with the MoER.

The national government has already begun this process. Between ten and 15 municipalities have requested that the national government consider taking over or initiating a general upper secondary school. Some municipalities may see nationally run upper secondary education as a way to relieve them of the burden of school maintenance. Many school buildings are in bad repair, and local governments do not have sufficient funds to bring them to standard. Currently, there are four nationally-run general upper secondary schools.

Nevertheless, many municipalities resist the idea of nationally-run general upper secondary schools. According to one interviewee, many municipal governments see the proposal for nationally-run upper secondary education as a part of a broader push to re-balance national and municipal powers, and as a potential curb on municipal autonomy. Nor do these municipalities want to cede ownership of school buildings to the national government. The smaller budget allocation for education would also have an impact on municipalities' capacities to qualify for loans. There may also be a number of complications for those municipalities where primary through general upper secondary schools are in shared facilities where administrative oversight overlaps, which is the case in the majority of municipalities (there are 104 municipalities with schools serving students in years 1-12, and 122 municipalities with no separate upper secondary school).

Observations and recommendation on nationally-run general upper secondary schools

Separate, national administration of general upper secondary schools is highly uncommon in OECD countries. Denmark, where both secondary and tertiary education is the responsibility of the national government, is one of the rare exceptions. However, in 2007 Denmark went through a process of structural reform, promoting municipal mergers (now down from 271 to 98) and assigning greater responsibilities to the local level. Denmark devolved responsibility for VET education from the regional to the local level to encourage integration with local economic development (Froy and Giguère, 2010). Municipalities also continue to have some autonomy in regard to the location of secondary schools, the number and size of schools and classes, and the number of classes offered each week at the upper secondary and tertiary levels (Blom-Hansen *et al.*, 2010).

In the 1990s, both Bulgaria and the Czech Republic had decentralised primary through lower secondary education, but administered upper secondary education at the central level. However, in the early 2000s, Bulgaria made the decision to decentralise upper secondary education to the local level as well. In 2005, the Bulgarian National Agency for Vocational Education and Training and the national employment service signed a long-term agreement to establish a unified information system on national, regional and local VET qualifications, and to encourage joint action across levels of government (Froy and Giguère, 2010). In the Czech Republic, upper secondary schools have been decentralised to the regional level, while municipalities are responsible for primary and lower secondary schools (Eurybase, 2007). Finland and Norway follow a model similar to

the Czech Republic: counties or regional authorities are responsible for upper secondary education – both general and vocational (Moisio, 2010b).

Certainly, there are some arguments to be made in regard to the greater capacity of the national government to fund general upper secondary schools (which are more expensive) and to promote high quality, equity and efficiency across regions. Centralisation of schools at this level would also relieve competition between the nationally run VET schools and the locally run general upper secondary schools.

At the same time, general upper secondary schools are an important part of regional social and economic development, as are VET schools. Centralisation of upper secondary education may further weaken links between education and regional development planning. Indeed, if the government chooses to strengthen regional social and economic development, it will be more important to expand sub-national responsibility for both upper secondary and VET education and to strengthen policy integration at this level. This approach is also promoted in the 2010 Human Development Report of the Estonian Cooperation Assembly.

The OECD's Local Economic and Employment Development (LEED) Programme argues that co-operation across local and regional agencies responsible for education, training and regional development is important for preventing duplication, as well as closing gaps in local services. Regional and local agencies are much more likely to develop "big picture" solutions when they work together to address complex problems, and are also much more likely to be successful in the globalised economy (Froy and Giguère, 2010).

A 2010 OECD/LEED review of regional policy integration in different countries finds that regional and local governments need both flexibility and capacity to develop effective policies. In education (general and vocational), flexibility refers to the time it takes to update curricula, adapt training programmes, and manage budgets. VET programmes, in particular, need the flexibility to respond to local business and community needs. In Denmark, for example, training institutions have flexibility to develop programmes responding to the needs of local employers, so long as they comply with the national competency framework and have been authorised by the national Ministry of Education. Flexibility may also refer to students' ability to transfer between academic and vocational tracks (Froy and Giguère, 2010).

At the same time, regional and local stakeholders may also need support from the national level to develop capacity for strategic planning and co-operation. This includes investments in guidelines, training and sharing of best practices. National agencies also need to hold regional and local governments accountable for meeting national goals for education and development.

Recommendation: In order to strengthen links between education and economic and social development, both upper secondary education and VET education should be administered at the sub-national level, and should have sufficient autonomy to tailor provision to local needs. To ensure equity and quality, schools and training centres should continue to be held accountable for meeting national standards.

Re-drawing the boundaries of school catchment areas

The MoER and the Government Office have expressed interest in the possibility of developing quantitative criteria to guide decisions as to how to re-draw school catchment areas. As with many decisions on educational provision, policy makers will need to

consider equity, efficiency and quality. They may look to data on the existing educational situation, disparities in facilities or teacher experience and quality, school performance in national examinations and in external evaluations, costs, and projections of enrolment demand. These decisions will require careful analysis, including data on school performance, spatial mapping, and consideration of costs and benefits associated with different potential boundaries, and preferences of residents in both communities. The MoER has already provided a detailed analysis mapping distances between students' homes, schools, and other services. Local governments may decide whether or not they will follow the MoER recommendations.

Observations and recommendation on school catchment areas

In deciding how to re-draw school catchment areas, two caveats should be noted. First, as is clear throughout this Public Governance Review, Estonia is addressing broader questions related to service provision and municipal sustainability. Decisions as to whether and how to re-draw educational catchment areas should, of course, follow on any decisions to re-draw municipal boundaries, merge services or create service networks. This is particularly important, as any new municipal boundaries would also re-shape the local fiscal environment (see Chapter 6: "Delivering Public Services Effectively").

Second, while the MoER or MoF may suggest options for re-designing school catchment areas, communities are more likely to accept changes if they are not mandated, and if they have a voice in the final decision as to where the catchment boundaries will be drawn. This will be particularly important if new catchment boundaries also involve school closures and consolidations, as such decisions are almost always difficult for communities. Community members justifiably worry that closure of a school will lead to the demise of a community's social and economic vitality. Families that have lived in the same community for more than one generation may feel that important ties with their own history are being cut.

With these caveats in mind, national or regional leaders can facilitate local decision making by providing information and analysis. This may include working with local leaders to set criteria to guide decisions regarding catchment boundaries. National or regional leaders may also provide tools for spatial mapping and consideration of costs and benefits associated with different potential boundaries, and analysis of residents' preferences. If school closures or consolidations are being considered, public debates with parents and community members can help air concerns and also lead to better decision making. Indeed, a number of communities in different countries have developed Internet sites to describe the process for community consultation and decision making regarding school consolidation and school closure. In some cases, community members have set up blogs with online debates regarding the advantages and disadvantages of different options that have been presented to them for the School Board or for public vote (see, for example: *www.vsb.bc.ca/district-news/school-closure-public-consulation-meeting-format* for a public consultation regarding closure of schools in Vancouver, Canada. A community blog on school consolidation in Maine, US presents community members' arguments for and against the issue: *http://futurefreeport.com/2008/11/01/freeport-school-consolidation*).

Communities regularly change school catchment areas, based on a number of pragmatic considerations. These include:

- Minimising walking distances and safety hazards.
- The opening of new school or closing of an existing school.

- New residential areas or decline in population in established communities.
- Diversity of socio-demographic groups included in the catchment area.
- Capacity to accommodate anticipated enrolment.
- Changes in grades configuration model used by the municipality or district.
- Development of new choice programmes or magnet schools.

Several of these criteria are outlined by Grinderud *et al.*, 2009, in a piece on establishment of school catchment areas in Norwegian municipalities.

Mapping tools can facilitate public participation processes and decision making, as described in Box 7.2.

Box 7.2. **School mapping and GIS**

Analytic tools for setting new school catchment areas may involve a combination of school mapping (SM), geographic information systems (GIS) and public participation GIS (PPGIS).

SM, which originated in France in 1963, is now a relatively common approach for education micro-planning in many countries; it is focused on ensuring both equity and efficiency within school catchment areas. The SM methodology typically involves analysis of a range of quantitative factors:

- The existing educational situation, including inequalities, efficiency issues such as drop-out rates, disparities in facilities, teachers, equipment, etc.
- Detailed projections of enrolment demand and definitions of optimal catchment areas for a school.
- Cost estimates (teacher transfers, facilities, equipment and materials).

Since SM is a micro-planning tool, it is usually implemented by administrators at the sub-national level; however, there is also a role for a national education entity (ministry, agency, etc.) in providing data and decision support services.

GIS – which is based on relational database management systems – facilitates spatial analysis, representing schools in their physical, social and geo-political contexts. The tools are flexible and interactive, and thus allow users to consider a range of scenarios and potential impacts – much more easily than would be the case with static maps. GIS tools also enable analysis of more environmental factors than traditional static maps, such as the ability of students to move from one location to another (for example, based on the local transportation network) (Hite, 2008).

In most cases, school catchment areas are decided by local authorities, and are based on trends in student enrolment and analysis of other data on school performance and costs. However, if the definition of new catchment area is likely to lead to school closure or school consolidation, it may be important to include community members in decisions. Hite suggests that the SM and GIS tools may also be used to facilitate public participation in "what-if" analyses and scenario development. Community members are able to better understand the consequences of different scenarios, and may also enrich discussion with a range of viewpoints. Hite suggests that the most successful public processes will outline a clear definition of the issues, the roles of various participants, and goals and intentions for the process.

Source: Hite, S.J. (2008), "School Mapping and GIS in Education Micro-Planning", Working Document, International Institute for Education Planning, UNESCO.

Recommendation: Decisions regarding boundaries for school catchment areas are best made at the municipal level. The MoER should provide information and analysis and help to establish criteria to guide decisions.

Recommendations for sustaining high-quality education in Estonia

A number of governance-related issues are currently under discussion in Estonia, and decisions related to educational governance need to be part of this broader context. For example, any decisions related to public financing and tax reform will also have an impact on education funding, and the MoER should be part of these as well as other discussions related to broader governance reforms. The national government's strategy for national and regional social and economic development will also have an impact on how the MoER approaches the question of whether to establish nationally run general upper secondary schools.

Taking these uncertainties into account, and based on the discussion of the current system, and the alternative approaches and examples above, the following four broad recommendations are offered.

Recommendation 1: Link education to broader goals for social and economic development through strong horizontal and vertical relationships

Whether Estonia chooses to support a model with economic growth centred in the larger cities, or with growth distributed across regions, education needs to be a key part of the strategy. Stronger horizontal relationships at every level of government will be important to developing linked strategies for high-quality education promoting equitable outcomes, and economic and social development.

Currently there are few formal horizontal links across the ministries responsible for setting the overall direction of education, social and economic policies, and even fewer links across municipalities and regions. But decisions related to education funding structures, as well as governance of general upper secondary schools and VET cannot be made independently of these broader strategies. Ministry-level decisions, at a minimum, need to be aligned. Ideally, decisions at this level will reinforce and support each other. Should Estonia decide to support greater regional development (with many centres), inter-ministerial co-ordination will also be essential for setting up new frameworks and structures, developing supporting legislation and regulations, deciding upon the functions that should be delegated to the county and municipal levels, and clarifying rights and responsibilities at the different levels of government.

Vertical relationships are also vital to strengthening links between education, and social and economic development. National policies that are developed with the participation and input of sub-national stakeholders will better reflect local needs and preferences for development. Sub-national input on the development of policy will ensure that policies respond to local needs and concerns.

Recommendation 2: Establish new structures to promote regional collaboration

As discussed, co-operation across municipalities and regions is currently voluntary and *ad hoc*. Formal structures, such as cluster districts to support services like joint purchasing and professional development networks, can help to systematise co-operation and address some of the existing barriers. They can also reinforce links across education and stakeholder groups engaged in regional economic and social development.

The national government will have key role to play in developing supporting legislation and regulations to create new structures. At the same time, it will be important to engage regional and municipal stakeholders in the design of new cluster districts or other frameworks for collaboration. Local stakeholders will also have a better view of their constituents' needs and priorities; moreover, their buy-in will be essential to the success of any new structures. Vertical and horizontal co-operation in these first stages of designing new structures will set the foundation for ongoing co-operation.

Recommendation 3: Build capacity and monitor performance at all levels

Decentralisation has introduced greater complexity to government at all levels. It will be important to continue "capacity-building" across national ministries and across regional and local governments. Capacity-building is a "soft" tool of governance, as compared to the "hard" tools of financial incentives and regulations. New capacities can include skills related to policy development, improving communication and consultation processes (both vertical and horizontal), and engagement with community members, for example in decisions related to school closure and consolidation. Softer approaches, such as identifying and disseminating models of effective practices, are often more successful than mandating specific approaches.

A well-structured system of performance monitoring is also essential for ensuring the quality and equity of student outcomes, for learning about what policies are working well and where improvements are needed, and for making better decisions regarding allocation of limited resources. Municipal and school leaders will need skills to interpret performance data and to develop appropriate strategies to address needs.

Recommendation 4: Exchange knowledge with peer countries

As a new member of the EU, and even more recently the OECD, Estonia will have more opportunities to exchange knowledge and share experiences with a wide range of peer countries. These international forums allow exploration of education issues and policy options beyond those already being discussed in national debates in Estonia. In turn, other countries are likely to be interested in understanding factors behind the success of Estonian students on international assessments such as PISA and TIMSS.

The most effective strategy may be to look to different countries or groups of countries for different issue areas. As noted above, Estonia may explore a range of options for funding education by exploring very different examples of centralised education funding in France and Greece, or models for decentralised funding in the Nordic countries. In regard to issues related to rural education, Estonia may look to experiences of a wide range of countries. For example, while general education policies in large countries such as Canada and the US are not as clearly relevant to the Estonian context, very small rural communities confront very similar issues. Estonia may refer to ways in which rural communities in these and other countries have engaged community members in decisions regarding school closure and consolidation.

As noted, the Nordic countries have also developed new models for assessment and evaluation of student and school performance that may be useful for Estonia. While the education system in the Netherlands is very different from the Estonian system, its approaches to combining external school inspections and internal school self-evaluation may nevertheless be relevant.

The Central and Eastern European Countries (CEECs) also have much to learn from each other. While there are important differences between these countries, they nevertheless face a number of similar challenges in their transition to democracy, new forms of governance, and new approaches to planning for social and economic development.

While countries do tend to adopt general trends in educational policy making, each country also adapts and changes policies to fit its own context. New and innovative policy approaches to education often emerge from this process. Continued participation in international assessments such as PISA and TIMSS, and in-depth comparative studies focused on specific policy issues, will also be important. These international comparative studies can help identify what works in different contexts, and point to new directions for policy development.

Conclusions

The questions explored in this case study with respect to financial sustainability, service quality, local capacity and horizontal co-operation are not new to Estonia. While the school-age population may reach a low point in the coming years, and then start climbing again, this does not present a sufficiently strong argument to maintain the *status quo* until "times are better." In order to capitalise on the strengths of its education system, and overcome the challenges being presented by demographic shifts and resource constraints, the need to successfully address the most difficult questions has become urgent.

A whole-of-government approach. In light of the division of responsibilities and funding structures that surround the provision of education, the relationship between Estonia's central government and its local authorities is closely linked. Yet, change in the education system has been slow overall, and sometimes stalled. This may be due at least in part to a tension between central "authority" and local "autonomy", expressed through centrally established policy objectives (the "what") and sub-national level policy implementation (the "how"). Within its sphere of influence, the MoER will need to build its stewardship capacity, *i.e.,* its ability to supervise and manage all the elements relating to the education system placed in its care, including education policy priorities, the programmes designed to realise these priorities and the actors at all levels of government who implement them. This is particularly critical given limited possibilities for direct intervention in how local governments provide education.

As explored in Chapter 4: "Promoting a Whole of Government Approach", the role of the steward is not to direct or control, but rather to guide and co-ordinate. Accomplishing this in the realm of education will require stronger guidance and improved co-ordination on the part of the MoER, increased attention to external accountability, and greater sub-national capacity to use the resources (such as the data and analysis) housed within the ministry.

Working as a single government entails co-ordination not only at and by the Centre-of-Government, but also among line ministries in the realisation of objectives that have cross-sectoral links. For example, there is a need for strong collaboration and co-ordination between the MoER and the Ministry of Interior/Regional and Local Affairs if cluster districts are to be established. This need for co-ordination also extends to ensuring that the education priorities and outcomes are aligned to the longer-term national growth objectives – *i.e.,* are students learning today what they need to apply in the future to maintain and increase Estonia's competitiveness.

As the pivotal central-level actor in education, the MoER has a strong interest in ensuring that there is sufficient capacity at the national and sub-national levels to realise education policy and programme priorities. Reinforcing the "soft" tools of governance will be necessary, and is in line with a stewardship role. Such tools include providing guidelines, sharing effective management approaches, strengthening attention to monitoring for accountability and performance improvement, and building – in collaboration with sub-national actors – frameworks that promote horizontal co-operation, and supporting these with positive and clear incentives.

Building a common agenda. Central- and local-level policy makers will need to develop a common vision for how education is provided, working towards a shared outcome. This requires an ability to understand and balance government values, societal preferences, current and future costs and benefits, and expert knowledge and analysis. Estonia has clear values with respect to education, which it seeks to maintain. These include providing high-quality education; maintaining school choice; and ensuring that young children (years 1-9) have easy access to schools regardless of where they live. In addition, personal attachment to *alma mater* runs high as multiple generations have often attended the same school. Increasingly, these values need to be balanced with the realities of demographic change and resource constraints. Balancing these forces to develop a common agenda for education becomes crucial, and requires data and analysis, as well as the capacity to use the information.

Despite the extensive data collection undertaken by the MoER, evidence in policy making appears under-utilised. Greater use of evidence could help the MoER and local authorities evaluate policy options and make informed choices regarding such crucial matters as the school network, the cost of implementing curricula changes, and addressing horizontal inequities that arise from the current funding system. In the case of the latter, for example, good data relating to the structural costs of providing a defined standard of education in different localities could help the central government establish more clearly the amount each local government needs to spend in order to achieve such common equivalent national standards.

As part of exercising its stewardship role, the MoER should look at how it can better use its central policy, research, co-ordination and monitoring roles to consult and dialogue with all stakeholders in order to develop a vision and consensus to get around the current implementation impasse.

Delivering public service effectively. Estonia has placed a clear priority on education, evident in its funding allocations, particularly at the local level. As is the case with public service delivery overall in Estonia, education faces a municipal capacity challenge brought on by scale. In order to further build and sustainably maintain the high-quality education Estonians expect for their children, local authorities will need to build their capacity and willingness to co-operate with one another. While there is much that can be done based on local initiative alone – *e.g.,* a handful of municipalities sharing administrative services and/or teaching resources, or establishing networks that support teacher professional development – greater support from the central level will be necessary given that inter-municipal co-operation in Estonia is not systematic.

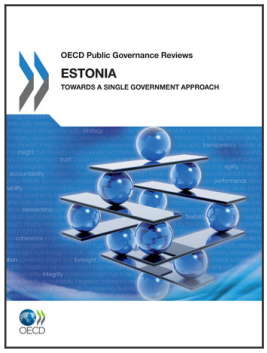
As noted in Chapter 6: "Delivering Public Services Effectively", voluntary co-operation in Estonia is unlikely go much farther without direct guidance or financial incentives from the central government, including the possibility of a central-level decision as to which

services should be undertaken co-operatively. Ensuring greater horizontal co-operation in education will require a more structured approach, and this study explores cluster districts as an option. Here, the central level plays a key role in promoting regional-level co-operation and establishing the corresponding frameworks and incentives to build scale, coherence, and more effective and efficient management of education. Meanwhile, the local level can continue to provide the level of education demanded, and maintain its autonomy in how education policy is implemented. A sustainable result, however, will of course also require vertical co-ordination among national and sub-national stakeholders, both government and non-government (*e.g.,* citizens, businesses, teachers, etc.).

This case study has aimed to respond to issues confronting the MoER from both an education and broader public governance perspective. While a specific policy area, education provides the opportunity to highlight how working towards a single government approach is applicable at a sectoral level. The study makes a clear argument for building horizontal co-operation at the local level as a means to strengthen the capacity of local governments to provide high-quality education, and sheds light onto what will be required to achieve this. It also provides insight into how national and sub-national interests can align, making room for a larger central role while still remaining respectful of local autonomy. This study has illustrated the tight links between sectoral policy and the need for a broader public governance perspective in order to ensure a high-quality education system, equity of outcomes, and a citizenry that is prepared to build and meet the economic and socio-economic future that Estonia seeks.

Notes

1. There is a three-year transition period for the new compensation scheme, so while the number of schools declined from 579 in 2006 to 559 in 2009-10, the MoER notes that the new formula is has not been fully implemented and these closures do not reflect new incentives of the formula.
2. Estonia has 33 cities and 193 rural municipalities. These designations are historically based and do not indicate the level of population density, remoteness *versus* closeness to services, etc.
3. Students leaving primary school will transfer either to a basic school or to a full cycle school after year 6.
4. The cities of Tallinn and Tartu and the municipality of Vaike-Maarja each own and administer a VET school at the municipal level.
5. The international research on the impact of school choice on school and student performance has yielded mixed results. A recent review of research on school choice in the US (Miron *et al.*, 2008), examined evidence from 87 studies. They found that some studies suggest positive impacts, and others indicate negative impacts. There is a need, they conclude, to better understand the factors that lead to success within particular schools or groups of schools.
6. Upper secondary schools must offer at least three study options from which students may choose (in addition to compulsory courses). Each broad study area must include courses from two subject domains. At least one area must include a science-related subject, and another must include a social science. Course content is not limited.
7. Currently, there are only four island schools and one mainland school meeting the criteria for regional isolation.
8. Currently, only three small schools operate under terms of united management.



From:

Estonia: Towards a Single Government Approach

Access the complete publication at:
https://doi.org/10.1787/9789264104860-en

Please cite this chapter as:

OECD (2011), "Case Study One: Estonian Education – Sustaining High Quality Schools", in *Estonia: Towards a Single Government Approach*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/9789264104860-9-en

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